AR100 SERIES INTERNET ROUTER

USER GUIDE

CONTENTS

ABOUT

Allied Telesyn

Simply connecting the world

AR100 Series Internet Router User Guide
Document Number C613-02001-00 REV B.

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Chapter 1

Introduction

Welcome to the AR100 Series Internet Router—the complete Small Office/ Home Office Internet solution. Your AR100 Series Internet Router has a Basic Rate ISDN port with full support for two ISDN B channels, providing dual high speed connections to the Internet, to a remote office, or both. You can connect up to four PCs directly to the AR100, or connect a hub for even more LAN connections. The AR130 and AR140 differ only in that the AR140 has two telephone ports for connecting telephones or facsimile machines.

Data and voice traffic share the one ISDN connection, saving on connection costs. Advanced call management functionality can automatically use a second ISDN B channel for bandwidth-on-demand applications, or disconnect a lower priority data call to free a B channel for a voice call or higher priority data traffic.

Whether your ISDN service provider offers an ISDN dial-on-demand service enabling you to make calls only when you need to, or an ISDN leased line service which stays connected continuously, you can configure your router to suit the needs of your office.

What can the AR100 do for you?

Connect you to the Internet

The AR100 Series Internet Router provides you with high speed, unrestricted access to the Internet, with compression techniques that speed up your data traffic. It can automatically disconnect the ISDN call if there is no data to be sent or received, to minimise call charges. It can limit the connection time or amount of data transmitted to thresholds you choose, allowing you to limit your ISP charges. The AR100 makes it easy for your Internet Service Provider to dynamically assign your Internet address every time you surf the net. You can use your router in an existing LAN, or directly connect up to four PCs to its four Ethernet LAN ports.

Connect you to a remote office

Many small offices and home offices require fast and efficient access to a central office to check email, access a database or download a file. Your AR100 can automatically open another ISDN channel when extra capacity is required, and close it when traffic levels reduce. If your office LAN uses private IP addresses

not registered on the Internet, the AR100 can translate these private addresses to a single registered IP address for communication across the Internet, saving you the time and expense of assigning registered IP addresses to each device on your LAN.

Connect you to other trading partners

The AR100 allows small offices to communicate with other trading partners using ISDN dial-on-demand or ISDN leased line. Information such as reports, quotes and orders can be transferred between the two offices. The AR100 does not place any limits on the number of network users, so it will continue to support you as your business grows.

Make phone and facsimile calls

The AR140 has two phone ports. Any combination of telephones, facsimile machines, and answering machines can be connected to these two ports. Once connected, they behave as if connected to a standard telephone network. Local, national and international voice and facsimile calls can be placed and received as normal. There is no need for a separate line for voice, facsimile and data—one ISDN connection does it all. The two ISDN channels are shared between data and voice as required. When both channels are being used for data, the AR140 can be configured to bump one of these channels if a voice call is required, for example when an emergency number is dialled.

The AR140 supports ISDN supplementary services, including call waiting, conference calling, implicit call transfer and call forwarding. These services must be provisioned on your ISDN line before they can be used by the AR140.

Note for Germany and Austria only: If you have leased lines on both ISDN B channels, for instance one for an Internet connection and one for an inter-office connection, you will not be able to connect telephones and use telephony services even if you have an AR140 with phone ports.

Protect your network from unauthorised access

When you connect to the Internet you have unrestricted access to the World-Wide Web. Likewise, it has access to you! This is not normally a problem as you are just one of many millions of subscribers. However, the AR100 includes a sophisticated packet filtering firewall that prevents unauthorised users accessing your local network, and ensures that only authorised users can access the central office.

The AR100 also supports callback for outgoing calls. This allows a remote site to reverse the call charges to a central office, for central billing of ISDN calls.

Make configuration simple

Your AR100 Series Internet Router has an easy to use web-based configuration tool. A wizard leads you step by step through setting up an Internet connection and/or an inter-office connection for the first time. If you want to add another connection or change the configuration later on, you can do this easily from your web browser.

What does your AR100 need?

This section describes the hardware, software and ISDN and Internet service requirements you need before you can configure and use your AR100 router.

Hardware and software requirements

Before you can install, configure and use your router, you need a PC with the following hardware and software:

- An i486, Pentium or equivalent processor
- Windows 95, 98 or 2000.
- An Ethernet adapter card.
- A CD-ROM drive.
- TCP/IP installed and configured on your Ethernet adapter card. TCP/IP is required for your PC to communicate with the router and the Internet. For more information, see "*Installing TCP/IP on your PC*" on page 3-1 or in the *Start Here Guide*.

If you do not have any of the above items, contact your PC supplier.

You also need:

- A UTP (CAT 5) Ethernet cable to connect your Ethernet adapter card to a LAN port on your router. Contact your authorised Allied Telesyn distributor or reseller if you need this.
- A web browser to access the Configuration Wizard, and Adobe Acrobat Reader to view the on-line manuals. These are included on the *AR100 Installer and Documentation CD-ROM*.

Note: Any device that can use TCP/IP to communicate can be connected to the router's LAN ports and use the AR100 to access the Internet. However, only PCs running Windows 95, 98 and 2000 can use the AR100 CD and run the Configuration and Management Wizard.

ISDN service requirements

To connect to the Internet or a remote office, you need a Basic Rate ISDN dial-on-demand or Basic Rate ISDN leased line (Germany and Austria only) account with an ISDN service provider. Some ISDN service providers may have different charges for services supporting data only and services supporting voice and data. We recommend that you compare the charges and features of ISDN services available. In most places this is fairly straight forward. In Australia, the United States and Canada there are more options available, and these are described in the following sections.

Ordering ISDN in Australia

The AR100 supports keeping an ISDN call connected semi-permanently. If you subscribe to the OnRamp Express service in Australia, outgoing calls on this line are charged at a lower rate than regular dial on demand ISDN calls. This means that a call can be set up to remain connected indefinitely, and to be reconnected if a fault in the ISDN network disconnects it.

Note: Only outgoing calls on the OnRamp Express service are charged at the lower rate. Incoming calls are charged at the higher casual rate, even if the calls are kept up semi-permanently, potentially leading to high ISDN call charges.

Ordering ISDN in North America

In the United States and Canada, Basic Rate ISDN is provided using National ISDN-1, 5ESS or DMS-100 formats on the following switch types, all of which are supported by the AR100 Series routers.

- NI-1 (National ISDN-1)
- 5ESS (AT&T Custom, Point to Point or Multipoint)
- DMS-100 (Northern Telecom)

Because an ISDN service provider uses hundreds of parameters to configure an ISDN line, the North American ISDN Users' Forum (NIUF) has defined some standard Capability Packages to make it easier to order ISDN. Each capability package consists of some standard line sets and feature sets that match the requirements of particular applications. Many ISDN service providers have implemented these capability packages, and you can order the one that suits your needs by using the corresponding ISDN Ordering Codes (IOCs). The ordering of ISDN services has been further simplified by defining some EZ-ISDN packages which are supersets of Capability Packages that are expected to meet the needs of many ISDN subscribers. Note that the EZ-ISDN packages 1 and 1A are the same as the superset capability packages U and V.

If your ISDN service provider does not use IOCs, see "*ISDN Order Forms*" on page 1-7.

If your ISDN provider uses IOCs, use Table 1-1 to choose the capability package that suits your needs. Some ISDN service providers have lower call charges for data-only applications. If this is the case and you do not require voice capabilities, order an ISDN line that supports data only. Some ISDN service providers charge lower rates for voice calls than for data calls. The AR100 supports Data Over Voice (DOV), enabling you to send data calls as though they are voice calls, if the router at the other end of your calls is also configured for DOV. Depending on your location and ISDN service, this may not be permitted. If you will use DOV you may need to order an additional directory number from your ISDN service provider. Voice features supported by the AR140 are described in "*Telephony on the AR140*" on page 1-6.

You can send the **ISDN Line Configuration Request Form with IOCs** in "*ISDN Order Forms*" on page 1-7, or call your telephone company and give the corresponding information to the ISDN representative.

Order from your ISDN service provider:

- The IOC you want.

- An RJ-45 connector to be installed on the ISDN outlet.
- An NT1 to connect your AR100 router to the ISDN line.

Ask for this information from your ISDN service provider:

- The ISDN switch type they are using
- One or two directory numbers, as required
- One or two associated Service Profile Identifiers (SPIDs).

The AR130 and AR140 have completed the ISDN Ordering Codes Translation Review and are registered for IOC S and EZ-ISDN 1.

Table 1-1: Features of Capability Packages and ISDN Ordering Codes (IOC)

Feature	Capability Package/ISDN Ordering Code				
	IOC U EZ-ISDN 1	**IOC V EZ-ISDN 1A**	**IOC S†**	**IOC S1‡**	**IOC R§**
2 B channels	Yes	Yes	Yes	Yes	Yes
Both B channels alternating data and voice You can have data or voice on either directory number, but not both data and voice on the same directory number simultaneously.	Yes	Yes	No	No	No
Both B channels simultaneous data and voice. You can have data and voice simultaneously on the same directory number.	No	No	Yes	Yes	No
Data calls only on both B channels	No	No	No	No	Yes
Two directory numbers	Yes	Yes	Yes	Yes	Yes
Caller ID sent automatically	Yes	Yes	Yes	Yes	No
Calling number privacy The calling number is blocked.	On request	On request	No	No	Yes
Additional Call Offering (ACO) Call Waiting and Dynamic Bandwidth Allocation on directory number 1	Yes	Yes	No	Yes	Not applicable
Flexible Call Offering (FCO) Call Conference (three-way calling) on directory number 1	Yes	Yes	No	No	Not applicable
Call Forwarding on directory number 1	Yes	Yes	No	No	Not applicable
Additional Call Offering (ACO) on directory number 2	On request	On request	No	Yes	Not applicable
Flexible Call Offering (FCO) on directory number 2	On request	On request	No	No	Not applicable
Call Forwarding on directory number 2	On request	On request	No	No	Not applicable
Voice mail on directory number 1	No	Yes	No	No	Not applicable
Voice mail on directory number 2	No	On request	No	No	Not applicable

† IOC S was previously called Generic Data M.

‡ IOC S1 was previously called NYNEX.

§ IOC R was previously called Generic Data I.

Telephony on the AR140

The AR140 with voice ports supports supplementary services available in North America, if the corresponding services are provided on your ISDN line. Check with your ISDN service provider to confirm whether these services are available to you and if so, if there are any additional charges for them. The AR140 supports the following supplementary services:

- Call Waiting—requires Additional Call Offering (ACO) on your ISDN line.
- Conference (3-way) Calling—requires Flexible Calling on your ISDN line.
- Implicit Call Transfer—requires Flexible Calling on your ISDN line.
- Call Forwarding
- Reminder Ring

Internet connection

If you wish to use your router to connect to the Internet, then you also need an account with an Internet Service Provider (ISP).

About this manual

This user guide provides an introduction to the AR100 Series Internet Router, and detailed step-by-step instructions for installing the AR100 and configuring the AR100 using the Access Wizard and Configuration Wizard. The user guide is organised into the following chapters:

- *Chapter 1, Introduction* introduces the AR100 Series Internet Router and describes the features and benefits of using the AR100, and the prerequisites for making full use of it.
- *Chapter 2, Installing the AR100 Series Internet Router* describes how to install the AR100 Series Internet Router.
- *Chapter 3, Getting Connected* describes how to establish communication between your router and the PC you will use to configure the router.
- *Chapter 4, About Web Access to the AR100* describes how to access the router using your web browser.
- *Chapter 5, Configuring for the First Time* describes the Configuration Wizard that will lead you through configuring your AR100 for the first time. See this chapter if you have dial on demand ISDN only (most users).
- *Chapter 6, Configuring for a Leased Line* describes the Configuration Wizard that leads you through configuring your AR100 for the first time. See this chapter if you are in Germany or Austria and have leased line ISDN.
- *Chapter 7, Changing Your Configuration* describes the web-based Management Wizard that you use to make subsequent changes to your configuration.
- *Chapter 8, Using Telephony Services* describes how to use the services available for telephones connected to an AR140 with phone ports.
- *Chapter 9, Accessing Router Utilities* describes the router monitoring and upgrading utilities available from the web-based Management Wizard.
- *Chapter 10, Troubleshooting* gives hints and techniques for troubleshooting installation and configuration problems.

- *Chapter 11, Safety and Statutory Information* contains important safety information for your protection.

If you want to find out more about how different Internet protocols work, or how to configure the AR100's advanced networking features using the command line interface, refer to the *AR100 Series Internet Router Reference Manual* on the *Installer and Documentation CD-ROM*.

If you have an Internet connection, you can download the latest versions of this User Guide and other AR100 Series documentation from the AR100 Support Site at http://www.alliedtelesyn.co.nz/support/ar100.

Technical support

For on-line support for your AR100 Series Internet Router, see our on-line support page at http://www.alliedtelesyn.co.nz/support/ar100. If you require further assistance, contact your authorised Allied Telesyn distributor or reseller.

ISDN Order Forms

The following pages contain forms for ordering ISDN lines in North America. Print, complete and send one of these forms to your ISDN service provider.

If your ISDN service provider uses ISDN Ordering Codes (and most do), use the **ISDN Line Configuration Request Form with IOCs**.

Ordering an ISDN BRI line from an ISDN service provider in North America that does not use the standard ISDN Ordering Codes is sometimes called "a la carte" ordering. If your ISDN service provider does not ISDN Ordering Codes, check which kind of switch they use, and send either the **ISDN Line Configuration Request Form for 5ESS AT&T switch without IOCs** form or the **ISDN Line Configuration Request Form for DMS-100 Northern Telecom switch without IOCs** form.

Allied Telesyn AR100 Series Internet Router **North America**

ISDN Line Configuration Request Form with IOCs

Enter your details here and send to your ISDN service provider when ordering your ISDN service:

Name _____

Title _____

Company _____

Address _____

City, State, ZIP _____

Telephone _____

Facsimile _____

Name _____

Please provision the ISDN line with the Capability Package and options selected below:

❑ **Capability U (EZ-ISDN 1) Voice and data with ACO**

- ❑ ACO on directory number 2
- ❑ FCO on directory number 2
- ❑ Call Forwarding Variable on directory number 2
- ❑ Calling number privacy

❑ **Capability V (EZ-ISDN 1A) Voice and data with ACO and Voice Mail**

- ❑ ACO on directory number 2
- ❑ FCO on directory number 2
- ❑ Voice Mail on directory number 2
- ❑ Call Forwarding Variable on directory number 2
- ❑ Calling number privacy

❑ **Capability S - Voice and data without ACO**

❑ **Capability S1 - Voice and data with ACO**

❑ **Capability R - Data only**

Please use the long distance carrier selected below:

❑ AT&T ❑ MCI ❑ Sprint ❑ Other... _____

❑ **Please install an RJ-45 connector on the ISDN outlet.**

❑ **Please provide an NT1 to connect our router to the ISDN line.**

For ISDN Service Provider Use:

Please fax this sheet, with the information requested below, to the person listed above.

Select the switch type:

- ❑ NI-1 (National ISDN-1)
- ❑ DMS-100 (Northern Telecom)
- ❑ 5ESS (Custom AT&T)

Enter the Service Profile Identifiers (SPIDs) and directory numbers (DNs):

SPID #1:_____ SPID #2:_____

DN #1:_____ DN #2:_____

Allied Telesyn AR100 Series Internet Router **North America**

ISDN Line Configuration Request Form for 5ESS AT&T switch without IOCs

Enter your details here and send to your ISDN service provider when ordering your ISDN service:

Name _____

Title _____

Company _____

Address _____

City, State, ZIP _____

Telephone _____

Facsimile _____

Please provision the ISDN line with the configuration below for the appropriate switch:

Parameter	❑ **National ISDN-1**	❑ **Custom Multipoint**	❑ **Custom Point-to-Point**
Directory Numbers (DN)	❑ 1 ❑ 2 ❑ 3	❑ 1 ❑ 2 ❑ 3	1
Service Profile Identifiers (SPIDs)	2	2	0
Data Line Class (DSLCLS)	STD	MP	PP
B1 Service (B1SERV)	❑ DMD (On Demand) for voice and data on AR140 *OR* ❑ DATA ONLY for AR130	❑ DMD (On Demand) for voice and data on AR140 *OR* ❑ DATA ONLY for AR130	❑ DMD (On Demand) for voice and data on AR140 *OR* ❑ DATA ONLY for AR130
B2 Service (B2SERV)	❑ DMD (On Demand) for AR140 if voice required on B2 channel *OR* ❑ DATA ONLY for AR130	❑ DMD (On Demand) for AR140 if voice required on B2 channel *OR* ❑ DATA ONLY for AR130	❑ DMD (On Demand) for AR140 if voice required on B2 channel *OR* ❑ DATA ONLY for AR130
Circuit Switched Voice (CSV)	2	2	1
CSV Channel (CSV CHL)	Any	Any	Any
CSV Additional Call Offering (CSV ACO)	Unrestricted (U)	-	-
CSV Limit	2	-	-
Circuit Switched Data (CSD)	2	2	2
CSD Channel (CSD CHL)	Any	Any	Any
CSD Additional Call Offering (CSD ACO)	No	-	-
Terminal Type (TERMTYP)	A	A	A
Electronic Key System (EKTS)	No	-	-

Please use the long distance carrier selected below:

❑ AT&T ❑ MCI ❑ Sprint ❑ Other..._____

❑ **Please install an RJ-45 connector on the ISDN outlet.**

❑ **Please provide an NT1 to connect our router to the ISDN line.**

For ISDN Service Provider Use:

Please fax this sheet, with the information requested below, to the person listed above.

Select the switch type:

❑ NI-1 (National ISDN-1) ❑ 5ESS (Custom AT&T) ❑ DMS-100 (Northern Telecom)

Enter the Service Profile Identifiers (SPIDs) and directory numbers (DNs):

SPID #1:_____ SPID #2:_____

DN #1:_____ DN #2:_____

Allied Telesyn AR100 Series Internet Router **North America**

ISDN Line Configuration Request Form for DMS-100 Northern Telecom switch without IOCs

Enter your details here and send to your ISDN service provider when ordering your ISDN service:

Name _____

Title _____

Company _____

Address _____

City, State, ZIP _____

Telephone _____

Facsimile _____

Please provision the ISDN line with the configuration below for the appropriate switch.

Parameter	❑ **National ISDN-1**	❑ **Custom Multipoint**
Directory Numbers (DN)	❑ 1 ❑ 2 ❑ 3	❑ 1 ❑ 2 ❑ 3
Service Profile Identifiers (SPIDs)	2	2
Signalling	Functional	Functional
B Channels	2	2
Protocol Version Control (PVC)	2	1
Bearer Service	VVBD/CMD on any B	VVBD/CMD on any B
TEI Assignment	Dynamic	Dynamic
Release Key	No	NO
Additional Call Offering	Yes	Yes
Electronic Key System (EKTS)	No	No
Notification Busy Limit	1	1

Please use the long distance carrier selected below.

❑ AT&T ❑ MCI ❑ Sprint ❑ Other..._____

❑ **Please install an RJ-45 connector on the ISDN outlet.**

❑ **Please provide an NT1 to connect our router to the ISDN line.**

For ISDN Service Provider Use:

Please fax this sheet, with the information requested below, to the person listed above.

Select the switch type:

❑ NI-1 (National ISDN-1) ❑ 5ESS (Custom AT&T) ❑ DMS-100 (Northern Telecom)

Enter the Service Profile Identifiers (SPIDs) and directory numbers (DNs):

SPID #1:_____ SPID #2:_____

DN #1:_____ DN #2:_____

Chapter 2

Installing the AR100 Series Internet Router

Please read *Chapter 11, Safety and Statutory Information* before installing the AR100 router. It contains important safety information. The *Start Here Guide* also shows step by step how to install your router, and includes pictures of the components.

Unpack your router

Check the contents of the shipping carton. If any items are missing or damaged, contact the shipping agent or your authorised Allied Telesyn distributor or reseller immediately. Keep the shipping box, if possible. The shipping carton should include:

- AR130 or AR140 Internet Router
- Power supply unit
- Green ISDN cable
- Two voice stub cables (AR140 only)
- Two green S-bus termination straps
- Start Here Guide
- Warranty card
- AR100 Series Installer and Documentation CD-ROM.

Note: The two green S-bus termination straps are not needed in most situations, and the router uses line termination in the building. If you need to change your router to network termination, contact your Allied Telesyn distributor or reseller. Do not attempt to install them yourself. They must only be installed by authorised service personnel.

Position your router

Make sure you router is positioned:

- On a clean flat surface.
- Out of direct sunlight and away from other heat sources. The router is designed and tested to function between -5° C and 45° C.
- With plenty of room for air to circulate around the router and its air vents.
- Where moisture cannot enter the router.

Connect your router

Your router can be connected directly to your PC or to an existing LAN to provide an Internet and/or inter-office connection.

Connecting the router directly to your PC

1. Switch off the power to your computer.
2. Connect the ISDN port on the router to the ISDN line wall jack or NT1, using the supplied green ISDN cable.
3. Connect the Ethernet adapter card on your PC to one of the four LAN ports on the AR100 using a UTP Ethernet cable (obtained from your authorised Allied Telesyn distributor or reseller).

Note: If you connect your PC to LAN port 4, make sure the PC/Hub switch is in the out/PC position. If you connect your PC to LAN port 1, 2 or 3 this button is not used. (If you use a crossover cable instead of a direct cable, this switch should be in the opposite position for either a PC or a hub connection.)

4. If you have an AR140 with phone ports, connect up to two telephones, facsimile machines, or answer phones to the phone ports.
5. Connect the router to the mains power supply using the power supply unit supplied. Switch on the mains power supply. The Power LED lights and stays on, and the System LED flashes on briefly. The router start-up sequence takes less than a minute.

Caution: If the mains supply is outside the accepted range for the router, 100–240 VAC and 50–60 Hz, the router will not operate and may be damaged.

6. Switch on your PC. The router is now ready for initialisation. Proceed to *Chapter 3, Getting Connected*.

Connecting the router to an existing LAN

1. Connect the ISDN port on the router to the ISDN line wall jack or NT1, using the supplied green ISDN cable.
2. Connect LAN port 4 on the router to a hub on the LAN using a UTP Ethernet cable (obtained from your authorised Allied Telesyn distributor or reseller).

3. Make sure the PC/Hub switch is in the in/Hub position. (If you use a crossover cable instead of a direct cable, this switch must be in the out/PC position.

Note: If the PC/Hub button is in the wrong position the router cannot communicate with the LAN. (If you use a crossover cable instead of a direct cable, this switch must be in the opposite out/PC position.)

4. If you have an AR140 with phone ports, connect up to two telephones, facsimile machines, or answer phones to the phone ports.
5. Connect the router to the mains power supply using the power supply unit supplied. Switch on the mains power supply. The Power LED lights and stays on, and the System LED flashes on briefly. The router start-up sequence takes less than a minute. The router is now ready for initialisation. Proceed to *Chapter 3, Getting Connected*.

Caution: If the mains supply is outside the accepted range for the router, 100–240 VAC and 50–60 Hz, the router will not operate and may be damaged.

Chapter 3

Getting Connected

Now that you have made all the physical connections, you need to establish communication between the router and the PC you will use to configure the router. This chapter describes how to:

- Configure the first PC connected to the router.
- Install the support software from the CD-ROM onto the PC.
- Establish communication between the PC and the router using the AR100 Access Wizard
- Configure any additional PCs connected to the router. This is easily done as soon as you have initialised the router, or at any time in the future if you want to add more PCs.

Configuring your PC

Before you can establish communication with the router your PC must have TCP/IP installed and configured, as this is the protocol used to communicate with the router.

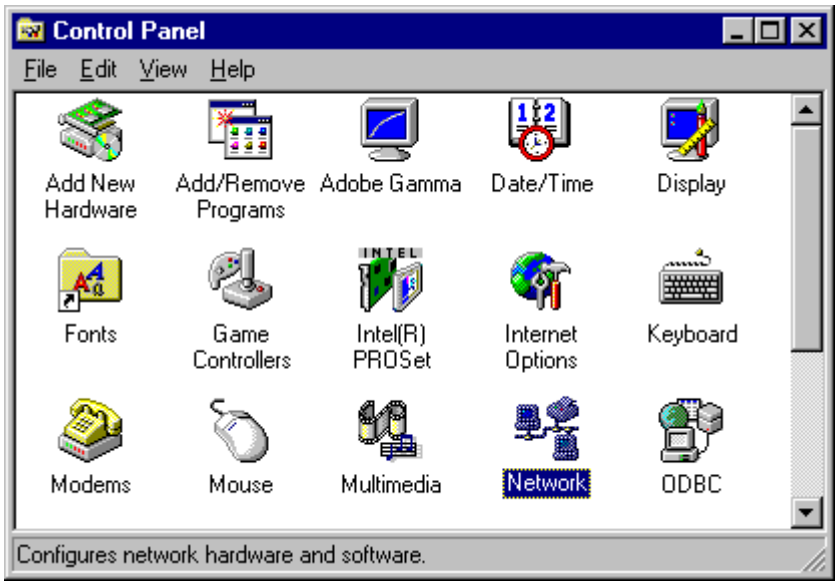
Installing TCP/IP on your PC

The first thing to check is that TCP/IP is installed on your PC. The files needed to install TCP/IP are included in Windows 95, 98 and 2000. The dialogs for Windows 2000 differ slightly from those shown here for Windows 95 and 98.

If TCP/IP is already installed, go to "*Installing support software*" on page 3-7.

1. In the Windows **Start** menu, point to **Settings** and click the **Control Panel**.

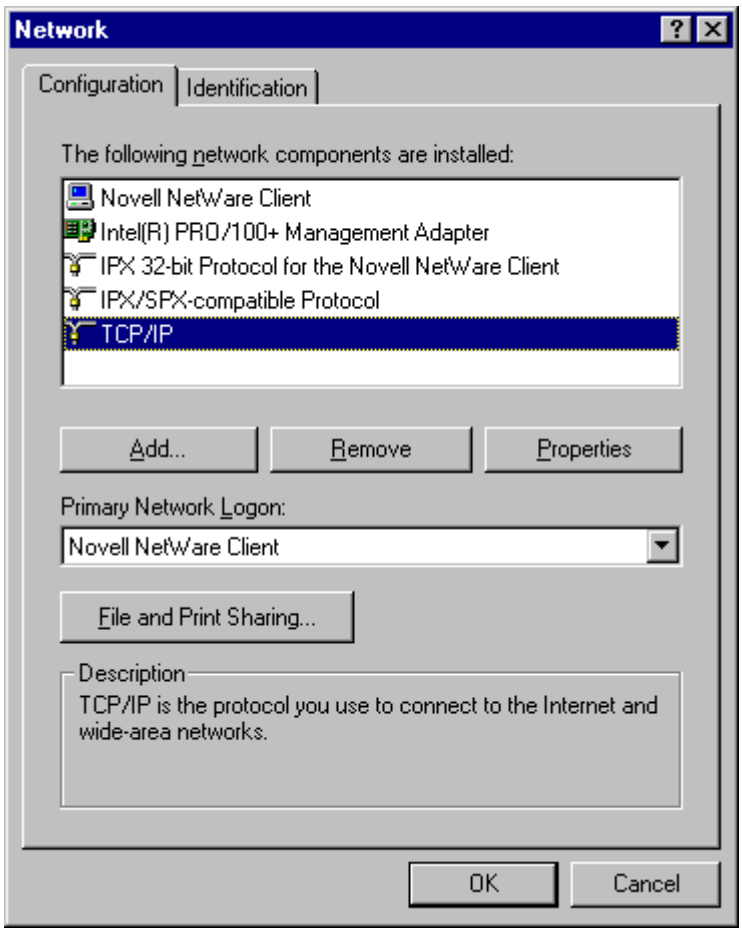
Figure 3-1: Windows Control Panel



2. Windows 95 and 98: In the **Control Panel**, double click the **Network** icon to display the **Network** dialog box.

   Windows 2000: In the **Control Panel**, click **Network and Dial-up Connections**. In the **Network and Dial-up Connections** dialog, right click on the **Local Area Connection** icon, and select **Properties**. The **Local Area Connection Properties** dialog opens, corresponding to the **Network** dialog in Windows 95 and 98. (If the **Local Area Connection** icon does not appear, check that your network adapter card is correctly installed and configured.)

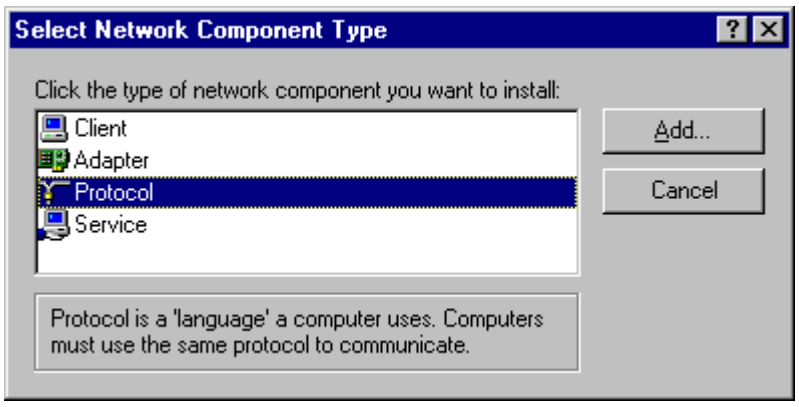
Figure 3-2: Windows Network dialog



If TCP/IP appears in the list of network components, then it is already installed. Go to "*Installing support software*" on page 3-7.

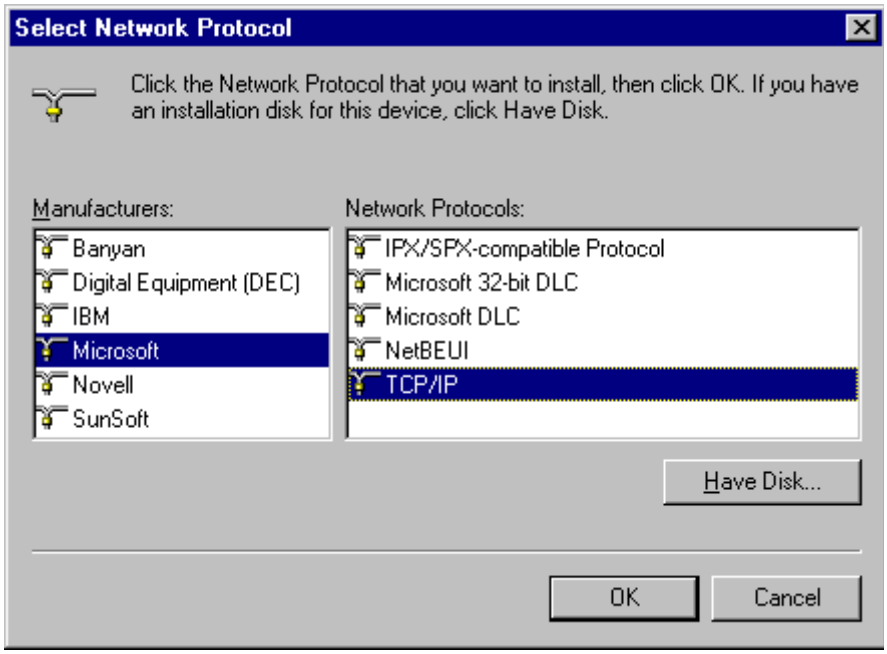
3. If TCP/IP does not appear in the list of network components, click **Add** in Windows 95 or 98, or **Install** in Windows 2000, to display the **Select Network Component Type** dialog box.

Figure 3-3: Select Network Component Type dialog



4. Select **Protocol** and click **Add** to display the **Select Network Protocol** dialog.

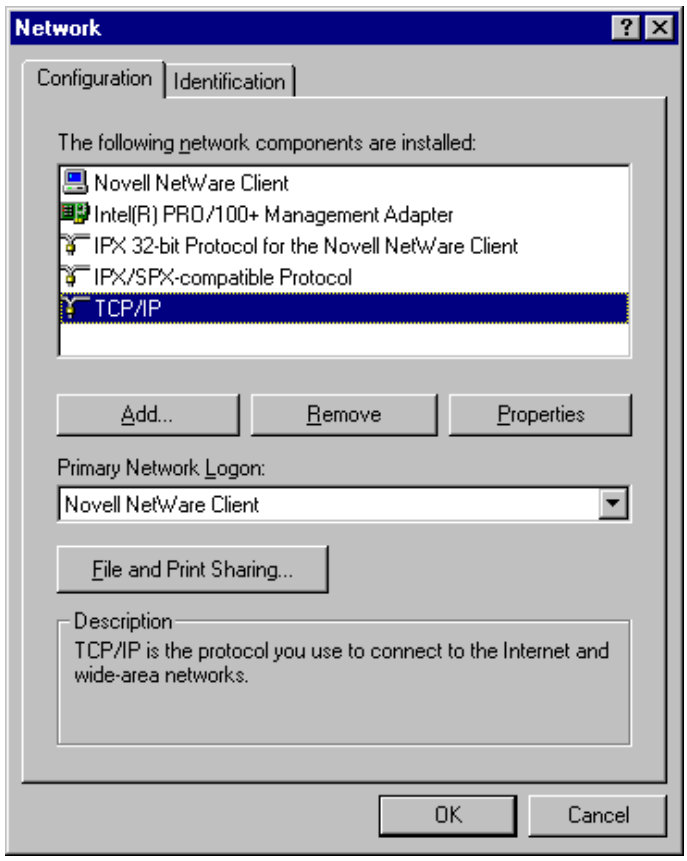
Figure 3-4: Select Network Protocol dialog



Select **Microsoft** from the **Manufacturers** list and **TCP/IP** from the **Network Protocols** list. Click **OK** to dismiss the dialog.

5. In the **Network** dialog box, select **TCP/IP** and click **Properties** to check the TCP/IP configuration. (If your PC has more than one network adapter, in the **Network** dialog box, select the TCP/IP entry for the network adapter connected to the router, and click **Properties**. If TCP/IP is installed over a Dial Up Adapter, do not select this.)

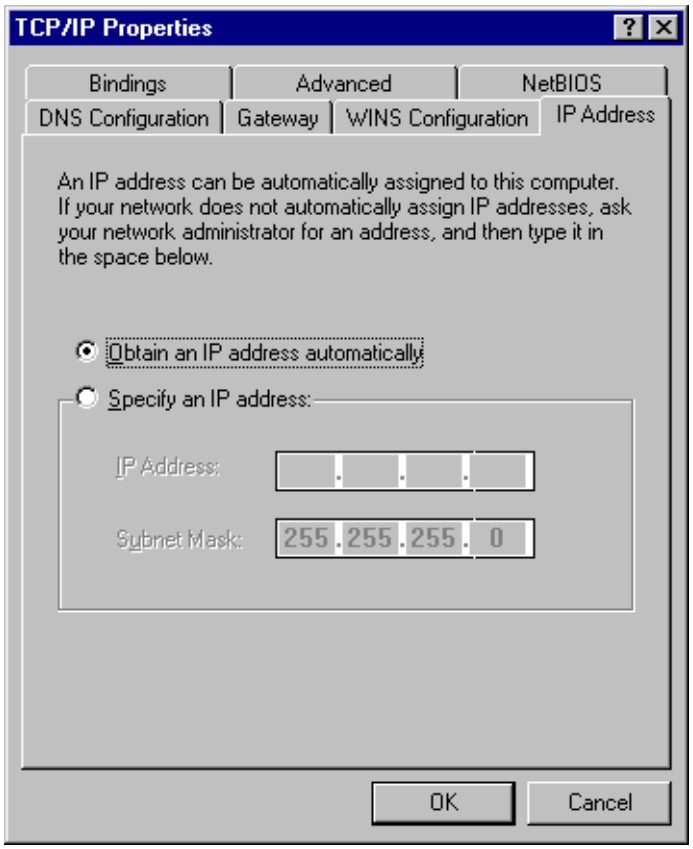
Figure 3-5: Network dialog



6. Windows 95 and 98: In the **TCP/IP Properties** dialog, click on the **IP Address** tab.

   Windows 2000: The **Internet Protocol (TCP/IP) Properties** dialog corresponds to the **IP Address and DNS Configuration** tabs in Windows 95 and 98.

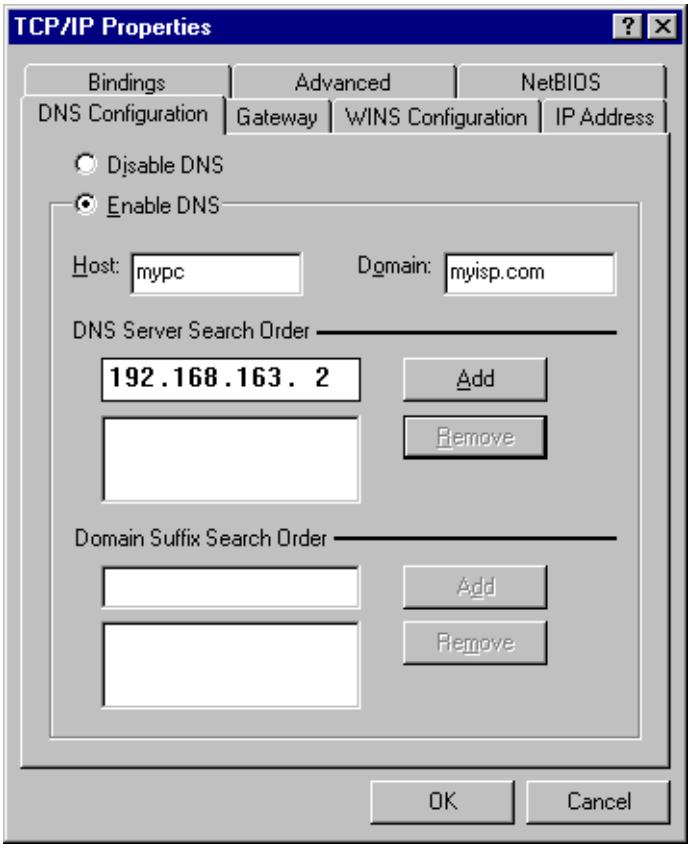
Figure 3-6: TCP/IP Properties IP Address tab


TCP/IP Properties
Bindings
Advanced
NetBIOS
DNS Configuration
Gateway
WINS Configuration
IP Address
An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space below.
Obtain an IP address automatically
Specify an IP address:
IP Address:
Subnet Mask:
255 . 255 . 255 . 0
OK
Cancel

Select **Obtain an IP address automatically**.

7. Click on the **DNS Configuration** tab to display the **DNS Configuration** dialog. Your ISP or network administrator will supply the DNS information required in this tab.

Figure 3-7: TCP/IP Properties DNS Configuration tab



Select **Enable DNS**. Enter a host name in the **Host** field. In the **DNS Server Search Order** field, enter the IP address of your DNS server and click **Add**. Click **OK** to save your changes and close the **TCP/IP Properties** dialog. Click **OK** to close the **Network** dialog. Click the **Close** button in the **Control Panel** title bar to close the **Control Panel**. TCP/IP is now installed.

8. Restart your PC when prompted to put the configuration changes into effect. Continue at "*Changing from dial-up networking*" on page 3-6.

Changing from dial-up networking

If you have been using Windows 95 or 98 dial-up networking for your connections to the Internet or a remote office previously, you may need to change the connection parameters so that your PC will use the router for your remote connections.

1. In the Windows **Start** menu, point to **Settings** and click **Control Panel**, to display the **Control Panel**. Double click on the **Internet**, **Internet Connections** or **Internet Options** icon to open the **Internet Properties** window. Click on the **Connections** tab.

2. Windows 95: If you have a check box labelled **Connect to the Internet as needed**, UNCHECK it.

   If you do not have this check box, but you do have an option to **Connect to the Internet using a local area network**, CHECK this instead.

   Windows 98 or 2000: Select **Never dial a connection**.

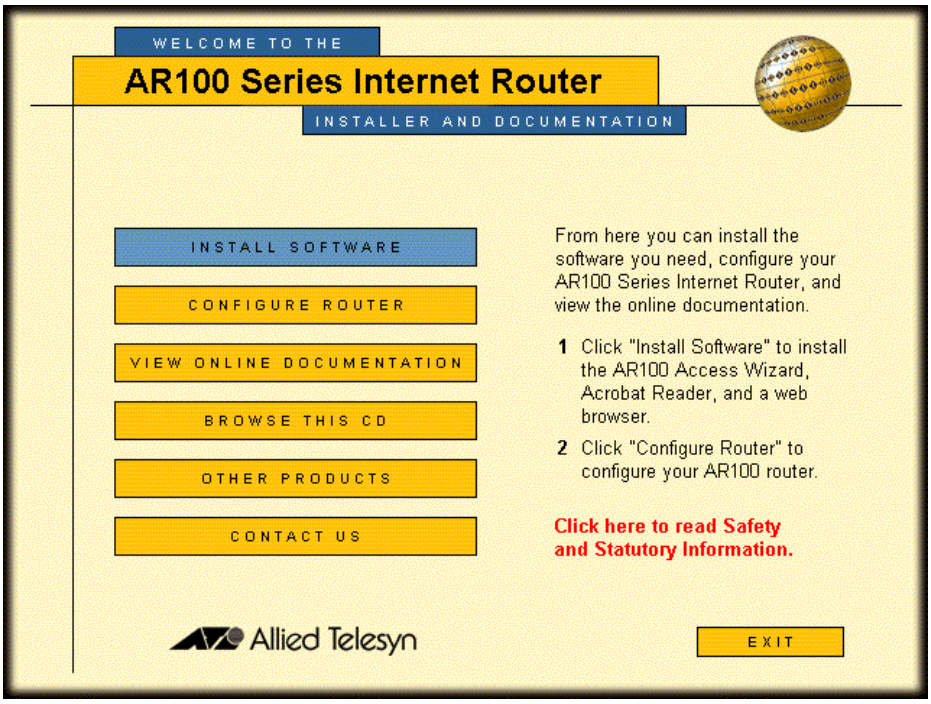
3. Click **OK** to save your changes and close the **Internet Properties** dialog. Click the **Close** button in the **Control Panel** title bar to close the **Control Panel**.

Installing support software

The AR100 Access Wizard requires some support files to be installed on your PC. You will also need a web browser to use the Configuration Wizard, and Adobe Acrobat Reader to view the on-line manuals. You should install these now from the *Installer and Documentation CD-ROM*.

1. Insert the CD-ROM into your PC's CD-ROM drive. The **CD-ROM Main Menu screen (Figure 3-8)** appears.

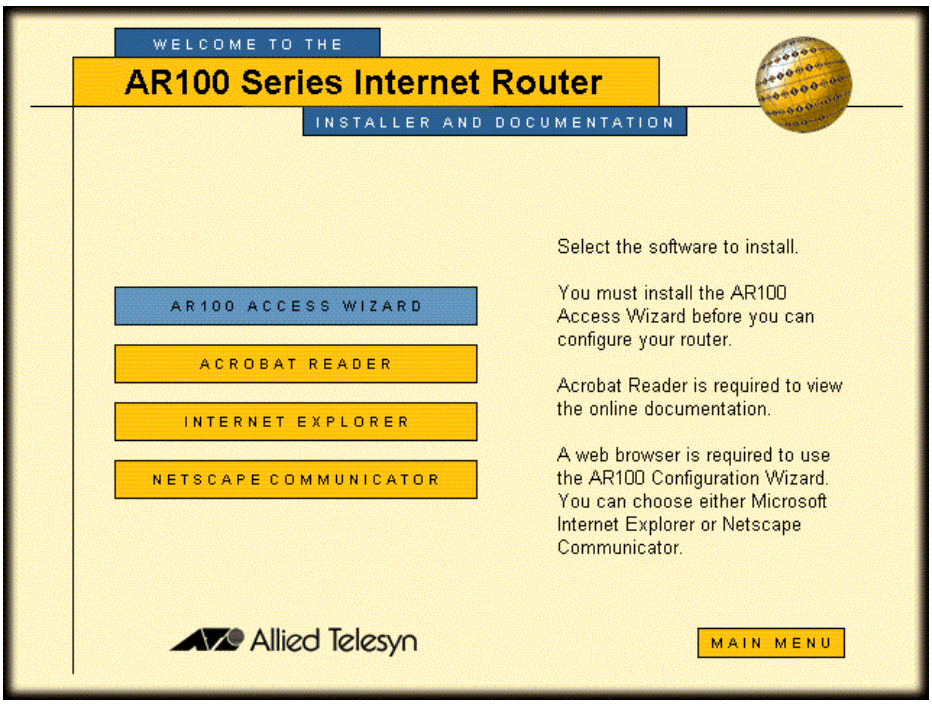
Figure 3-8: CD-ROM Main Menu screen


WELCOME TO THE
AR100 Series Internet Router
INSTALLER AND DOCUMENTATION
INSTALL SOFTWARE
CONFIGURE ROUTER
VIEW ONLINE DOCUMENTATION
BROWSE THIS CD
OTHER PRODUCTS
CONTACT US
From here you can install the software you need, configure your AR100 Series Internet Router, and view the online documentation.
1 Click "Install Software" to install the AR100 Access Wizard, Acrobat Reader, and a web browser.
2 Click "Configure Router" to configure your AR100 router.
Click here to read Safety and Statutory Information.
Allied Telesyn
EXIT

If the Welcome screen does not appear automatically, select **Run** from the Windows **Start** Menu, type **d:\start.exe** (where d: is your CD-ROM drive) and click **OK**.

2. Click **Install Software** to open the **CD-ROM Install Software screen (Figure 3-9)**.

Figure 3-9: CD-ROM Install Software screen


WELCOME TO THE
AR100 Series Internet Router
INSTALLER AND DOCUMENTATION
Select the software to install.
AR100 ACCESS WIZARD
ACROBAT READER
INTERNET EXPLORER
NETSCAPE COMMUNICATOR
You must install the AR100 Access Wizard before you can configure your router.
Acrobat Reader is required to view the online documentation.
A web browser is required to use the AR100 Configuration Wizard. You can choose either Microsoft Internet Explorer or Netscape Communicator.
Allied Telesyn
MAIN MENU

- Install the support files for the AR100 Access Wizard on your PC by clicking on **AR100 Access Wizard** and following the on screen instructions.
- If you do not have Adobe Acrobat Reader installed on your PC, install it now by clicking **Acrobat Reader** and following the on screen instructions. You will need Acrobat Reader to view the User Guide or the Reference Manual.
- If you do not already have a web browser installed on your PC, install one now by clicking on either **Internet Explorer** or **Netscape Communicator** and following the on-screen instructions. You will use the web browser to configure the router with information specific to your connections.
- Click **Main Menu** to return to the CD-ROM Main Menu.

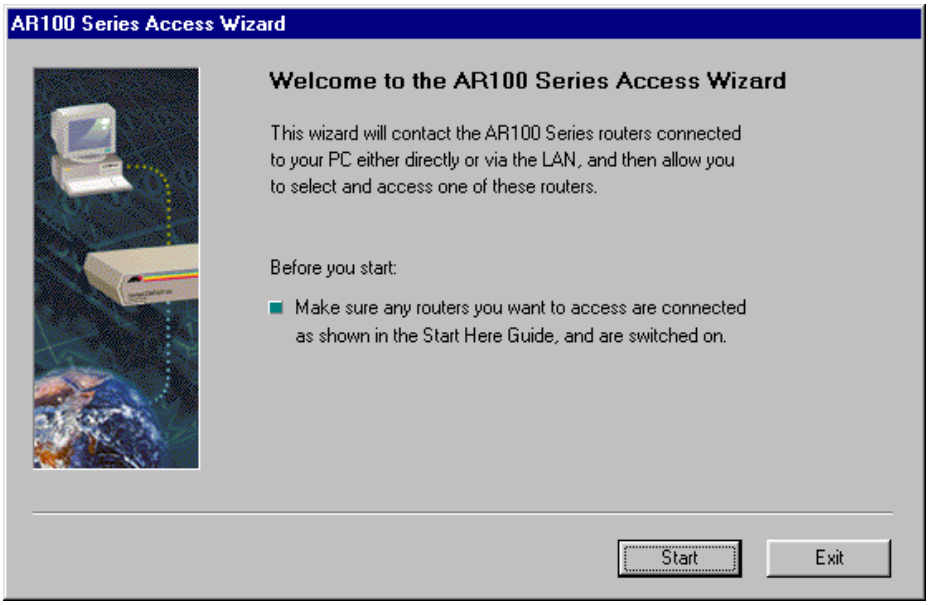
Getting the PC and router communicating

The AR100 Access Wizard will automatically set up communication between your PC and your router. It checks that your PC has an Ethernet adapter card, that TCP/IP is installed and correctly configured, and that a web browser is installed. It checks that there is a connection between the router and the PC, and makes sure that the router and the PC have the IP addresses they need to communicate with one another.

If anything in the system setup prevents communication, dialog boxes will tell you what to do. For more information, see *Chapter 10, Troubleshooting*. If you need to restart the AR100 Access Wizard after an interruption, remove the CD, re-insert it in the CD-ROM drive, and click **Configure Router** again.

1. Start the AR100 Access Wizard by clicking **Configure Router** on the CD's Welcome screen. The **Welcome to the AR100 Access Wizard dialog (Figure 3-10)** opens.

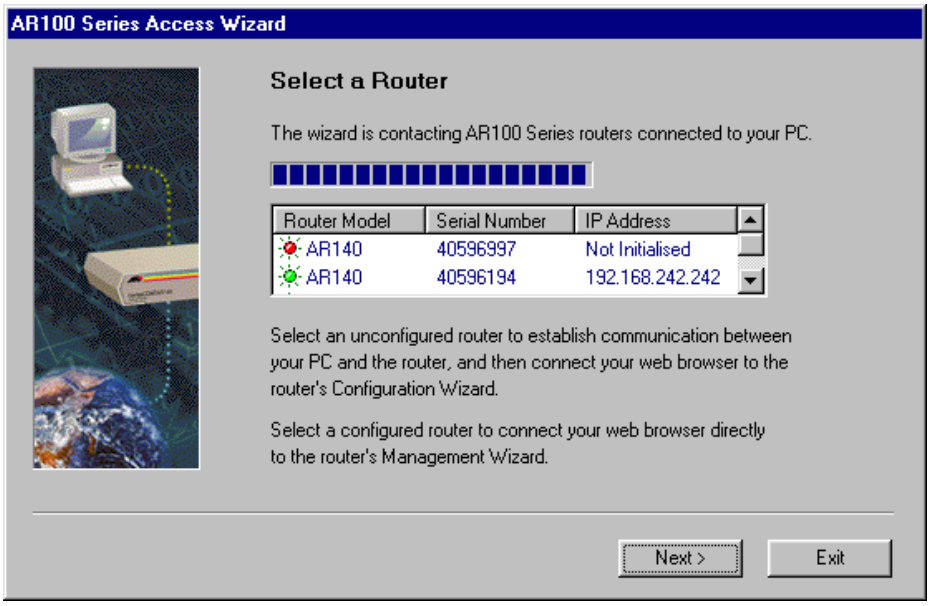
Figure 3-10: Welcome to the AR100 Access Wizard dialog


AR100 Series Access Wizard
Welcome to the AR100 Series Access Wizard
This wizard will contact the AR100 Series routers connected to your PC either directly or via the LAN, and then allow you to select and access one of these routers.
Before you start:
Make sure any routers you want to access are connected as shown in the Start Here Guide, and are switched on.
Start
Exit

In the Welcome dialog, click on the **Start** button. The **Select a Router dialog (Figure 3-11)** opens, and the AR100 Access Wizard searches for all the AR100 Series routers on the local LAN.

2. The **Select a Router dialog (Figure 3-11)** displays the AR100 routers that the Access Wizard has found.

Figure 3-11: Select a Router dialog


AR100 Series Access Wizard
Select a Router
The wizard is contacting AR100 Series routers connected to your PC.
Router Model
Serial Number
IP Address
AR140
40596997
Not Initialised
AR140
40596194
192.168.242.242
Select an unconfigured router to establish communication between your PC and the router, and then connect your web browser to the router's Configuration Wizard.
Select a configured router to connect your web browser directly to the router's Management Wizard.
Next >
Exit

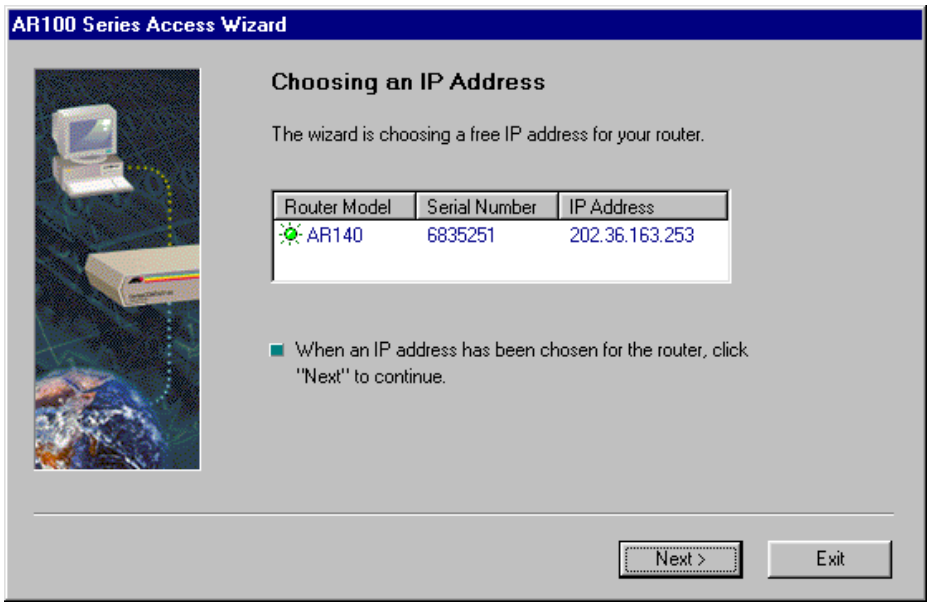
Select the router you want to configure, and click **Next**.

If you select a router that is already configured, your web browser connects you to the AR100 Management Wizard.

If you select a router that has not yet been configured, the **Choosing an IP Address dialog (Figure 3-12)** opens.

3. In the **Choosing an IP Address dialog (Figure 3-12)**, an "Initialising..." message appears in the IP Address field to show that the wizard is choosing a free IP address for the router.

Figure 3-12: Choosing an IP Address dialog



When an IP address appears in the IP Address field, click **Next**.

Depending on the PC's configuration either the **Gateway Not Set dialog (Figure 3-13)**, the **Gateway Already Set dialog (Figure 3-14)** or the **Domain Name Server dialog (Figure 3-15)** opens.

4. The gateway is the device on your network that connects you to the Internet or a remote office network. You may see one of the following two dialogs.

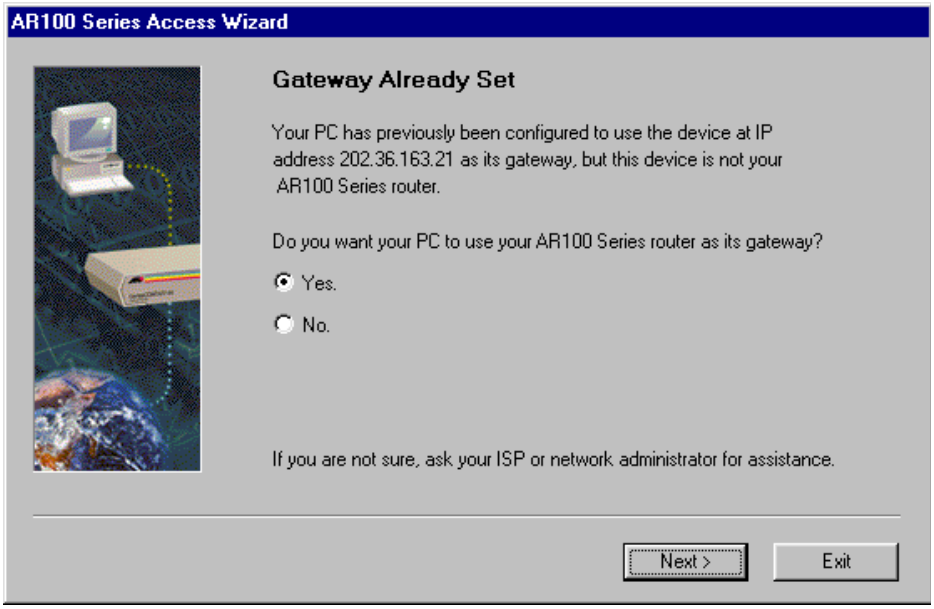
Figure 3-13: Gateway Not Set dialog

AR100 Series Access Wizard
Gateway Not Set
Your PC has not previously been configured to use a gateway to access the Internet or a remote office network.
Do you want your PC to use your AR100 Series router as its gateway?
Yes.
No.
If you are not sure, ask your ISP or network administrator for assistance.
Next >
Exit

If you see the **Gateway Not Set dialog (Figure 3-13)**, then you probably want the PC to use the AR100 as its gateway. Choose **Yes**.If there is another device connected to your PC that you want to use as its gateway, then choose **No**. You may need to set the other device as the PC's gateway. If you are unsure, contact your network administrator.

Select whether or not to use the AR100 as the PC's gateway, and click **Next**. The **Domain Name Server dialog (Figure 3-15)** opens. Go to step 5 on page 3-11.

Figure 3-14: Gateway Already Set dialog

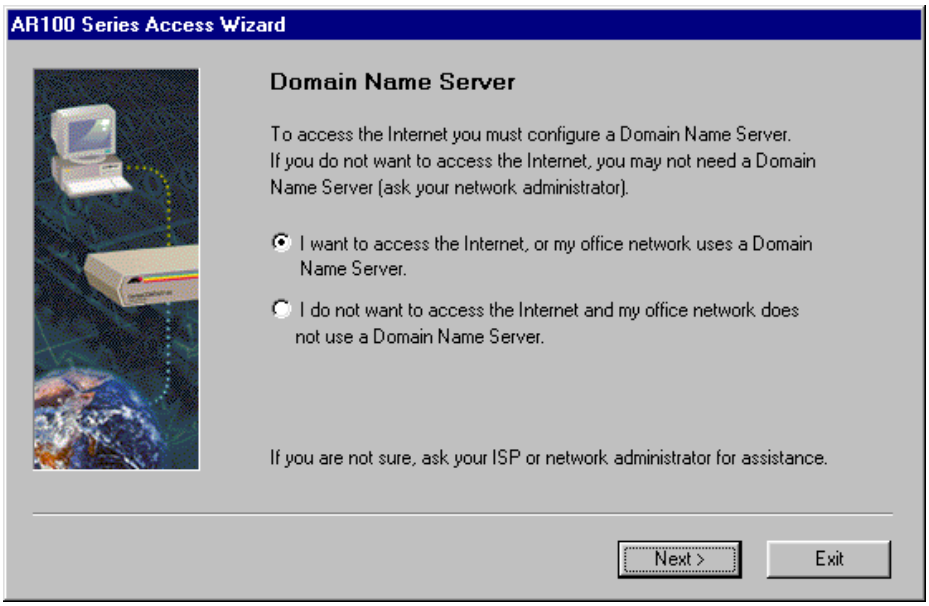

AR100 Series Access Wizard
Gateway Already Set
Your PC has previously been configured to use the device at IP address 202.36.163.21 as its gateway, but this device is not your AR100 Series router.
Do you want your PC to use your AR100 Series router as its gateway?
Yes.
No.
If you are not sure, ask your ISP or network administrator for assistance.
Next >
Exit

If you see the **Gateway Already Set dialog (Figure 3-14)**, the PC has been configured to use another device on the LAN as its gateway. You can choose whether you want the PC to use the AR100 as its gateway or whether you want it to continue to use the device at the IP address shown as its gateway. If you are unsure, contact your network administrator or ISP.

Select whether or not to use the AR100 as the PC's gateway, and click **Next**. The **Domain Name Server dialog (Figure 3-15)** opens.

5. The **Domain Name Server dialog (Figure 3-15)** allows you to choose whether or not you need a Domain Name Server (DNS). The DNS server translates IP domain names, for instance *alliedtelesyn.co.nz*, to IP addresses, for instance 123.156.78.9, so that data is sent to the right address.

Figure 3-15: Domain Name Server dialog


AR100 Series Access Wizard
Domain Name Server
To access the Internet you must configure a Domain Name Server. If you do not want to access the Internet, you may not need a Domain Name Server (ask your network administrator).
I want to access the Internet, or my office network uses a Domain Name Server.
I do not want to access the Internet and my office network does not use a Domain Name Server.
If you are not sure, ask your ISP or network administrator for assistance.
Next >
Exit

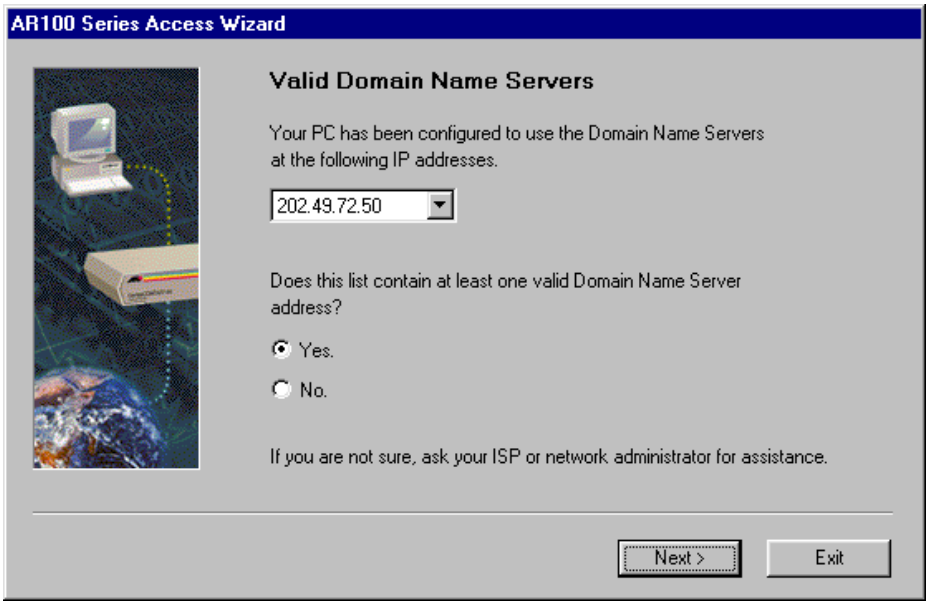
If you use your router to access the Internet, your PC needs the IP address of a Domain Name Server (DNS). If you not wish to access the Internet, you may still need a DNS server to access your remote office. If you are unsure, contact your network administrator.

Select whether or not you need a Domain Name Server, and click **Next**. If you need a Domain Name Server, the **Valid Domain Name Servers dialog (Figure 3-16)** opens. Go to step 6 on page 3-12.

If you do not need a Domain Name Server, the **Select Your Country dialog (Figure 3-19)** opens. Go to step 8 on page 3-14.

6. If you are unsure whether the DNS addresses listed in the **Valid Domain Name Servers dialog (Figure 3-16)** are valid, contact your network administrator.

Figure 3-16: Valid Domain Name Servers dialog

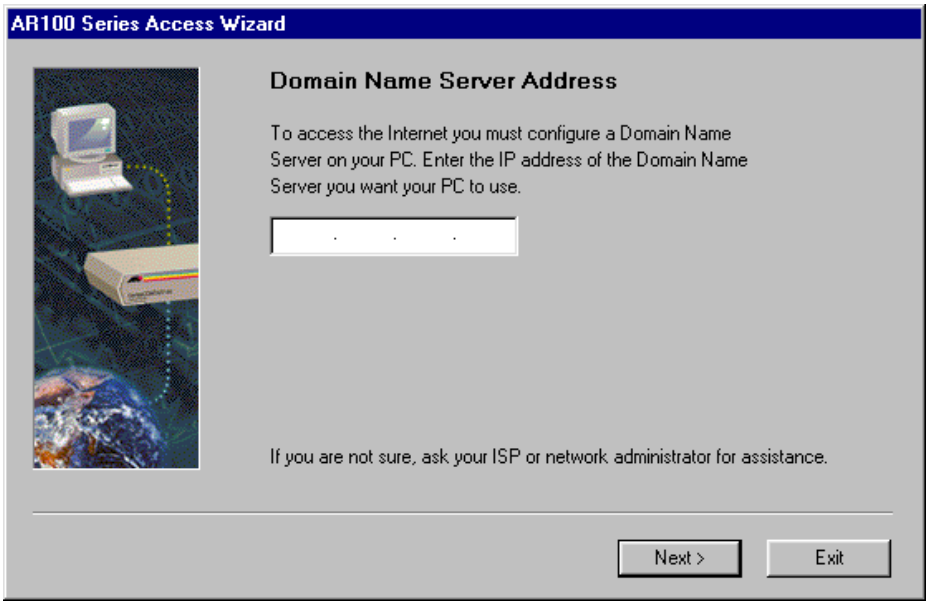

AR100 Series Access Wizard
Valid Domain Name Servers
Your PC has been configured to use the Domain Name Servers at the following IP addresses.
202.49.72.50
Does this list contain at least one valid Domain Name Server address?
Yes.
No.
If you are not sure, ask your ISP or network administrator for assistance.
Next >
Exit

If the DNS that you want the router to use is in the list, select it. Select **Yes** and then click **Next**. Go to step 8 on page 3-14.

If the DNS server that you want the router to use does not appear in the list, select **No** and click **Next**.

7. The **Domain Name Server Address dialog (Figure 3-17)** allows you to enter a DNS address. Your ISP will have supplied at least one DNS address.

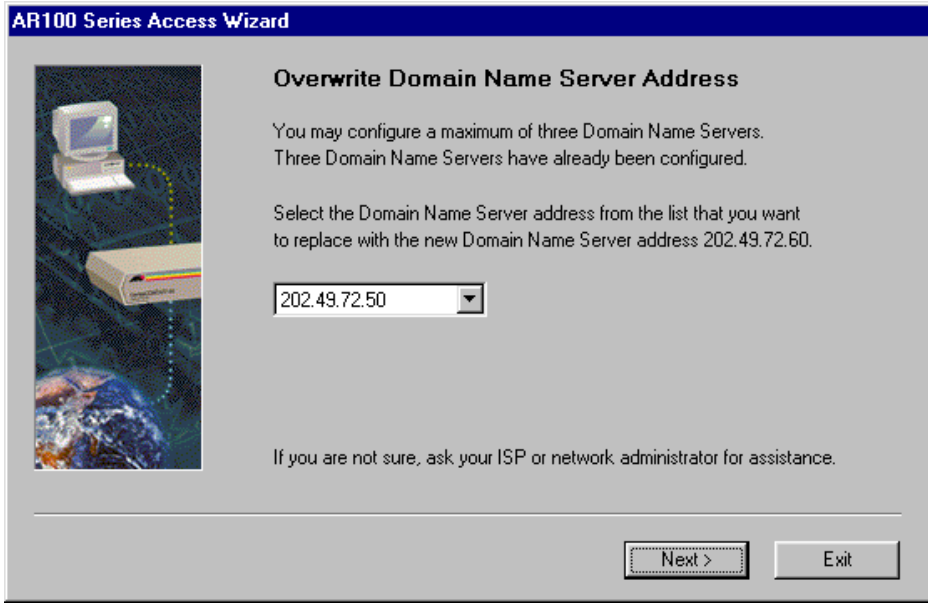
Figure 3-17: Domain Name Server Address dialog


AR100 Series Access Wizard
Domain Name Server Address
To access the Internet you must configure a Domain Name Server on your PC. Enter the IP address of the Domain Name Server you want your PC to use.
If you are not sure, ask your ISP or network administrator for assistance.
Next >
Exit

Enter the IP address for the DNS server you want your PC to use, and click **Next**.

If you have more than three DNS addresses configured, the **Overwrite Domain Name Server Address dialog (Figure 3-18)** opens. Otherwise the new DNS address is entered, and the **Select Your Country dialog (Figure 3-19)** opens.

Figure 3-18: Overwrite Domain Name Server Address dialog


AR100 Series Access Wizard
Overwrite Domain Name Server Address
You may configure a maximum of three Domain Name Servers. Three Domain Name Servers have already been configured.
Select the Domain Name Server address from the list that you want to replace with the new Domain Name Server address 202.49.72.60.
202.49.72.50
If you are not sure, ask your ISP or network administrator for assistance.
Next >
Exit

Your PC can only have a limited number of DNS addresses. If this dialog appears, you have tried to add one too many. You will have to replace one of the existing DNS addresses with the new one that you want the PC to use, entered in the previous dialog box.

Select an IP address that you no longer need in the list. Click **Next** to replace it with the IP address for the new DNS server.

8. Setting the correct location in the **Select Your Country dialog (Figure 3-19)** allows the AR100 Configuration and Management Wizards to set up the correct ISDN configuration options for your location.

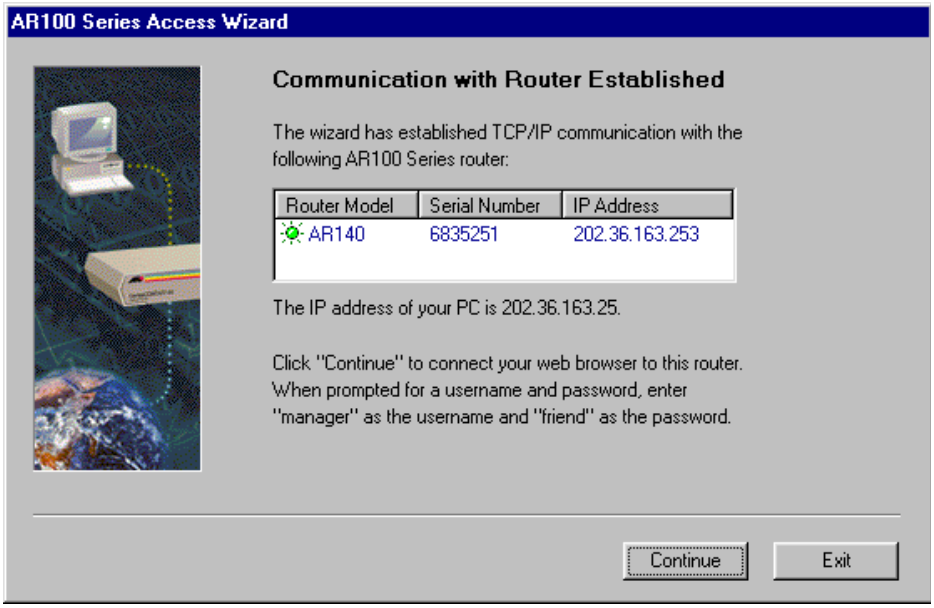
Figure 3-19: Select Your Country dialog

AR100 Series Access Wizard
Select Your Country
Your router needs to know what country it is operating in so it can set itself up to operate correctly.
Select the country in which you are going to operate your router.
Country:
New Zealand
Next >
Exit

Select the country in which the router is located. If your country is not in the list, choose 'Rest of World'. Click **Next**. The **Communication With Router Established dialog (Figure 3-20)** opens.

9. The **Communication With Router Established dialog (Figure 3-20)** shows that the AR100 Access Wizard has established communication between your PC and the router.

Figure 3-20: Communication With Router Established dialog


AR100 Series Access Wizard
Communication with Router Established
The wizard has established TCP/IP communication with the following AR100 Series router:
Router Model
Serial Number
IP Address
AR140
6835251
202.36.163.253
The IP address of your PC is 202.36.163.25.
Click "Continue" to connect your web browser to this router. When prompted for a username and password, enter "manager" as the username and "friend" as the password.
Continue
Exit

Click **Continue** to log into the router and start the AR100 Configuration Wizard in your web browser.

Connecting additional PCs

The AR100 has four LAN ports which can be used to create a Local Area Network (LAN). PC's connected to the hub can communicate directly with one another to exchange email, transfer files, or use workgroup applications like Microsoft Netmeeting and Outlook. You can connect additional PCs at any time after you have configured the router for the first time.

To connect an additional PC:

- Connect the additional PC to the router as described in "*Connect your router*" on page 2-2.
- Check the current LAN configuration and configure TCP/IP on the additional PC as described in this section.

If you want the new PC to use the AR100 Management Wizard to access the router's configuration and other utilities you will also need to:

- Install the support software as described in "*Installing support software*" on page 3-7.
- Run the AR100 Access Wizard as described in "*Getting the PC and router communicating*" on page 3-8.

Note: Any device using TCP/IP to communicate can be connected to the router's LAN ports. However, only PCs running Windows 95 and 98 can use the AR100 CD and run the Configuration and Management Wizard. If you connect another device, it's configuration should be comparable to that described in this chapter for Windows 95 and 98.

Follow the steps below. The figures

Record LAN configuration

The AR100 supports a range of Local Area Network (LAN) configurations, but all PCs connected to the router must have the same configuration. The LAN configuration will depend on any previous TCP/IP configuration and any changes made by the AR100 Access Wizard.

The most likely configuration for a small office or home office is for the PC to use IP addresses allocated dynamically by the router's DHCP server. This is the simplest configuration and requires minimal changes to the additional PCs. Other possibilities are for the PC to use IP addresses dynamically allocated by a DHCP server other than the AR100, or to use static IP addresses and no DHCP server.

Print Table 3-1. Use this table as you follow the steps below. The dialogs for Windows 2000 differ slightly from those shown here for Windows 95 and 98.

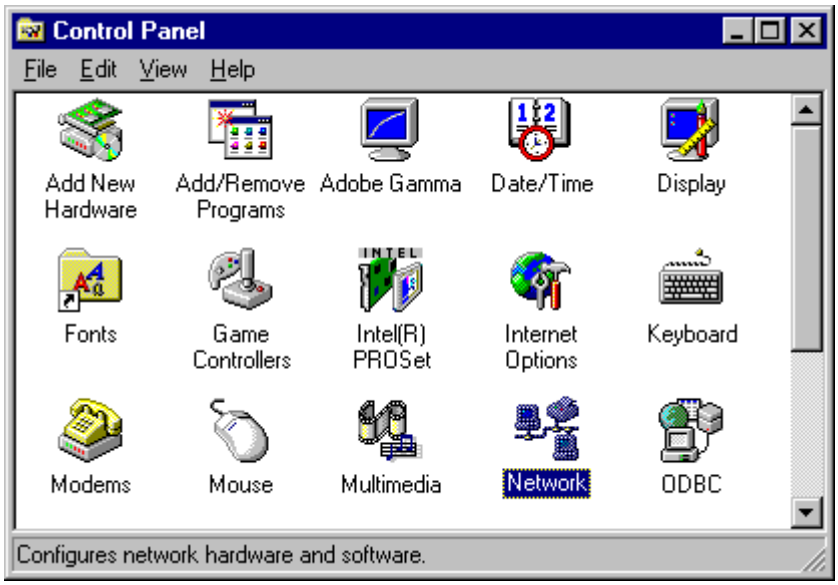
Table 3-1: Check list for configuring additional PCs

Configuration parameter	Examples	Enter your data below	
Check the TCP/IP configuration on the first PC. Record whether the IP address is dynamically or statically allocated in field A or field B. If the first PC is configured with a specified IP address, record the IP address in field C and the subnet mask in field D.			
Obtain IP address automatically	✓		A
Specify an IP address	✓		B
IP Address for first PC	192.168.163.21		C
Subnet Mask	255.255.255.0		D
From the DNS Configuration tab on the first PC, record the DNS Server Search Order in field G and the DNS host in field F.			
DNS Configuration	Enable DNS		E
DNS Host for first PC	PC1		F
DNS Server Search Order	192.168.163.2		G
If field B above shows Specify an IP address, record the gateway address in field H.			
Gateway address	192.168.163.3		H
Is the router's DHCP server is enabled or disabled? Record this in field I.			
AR100 DHCP server	disabled		I
Enter a DNS host name for each additional PC in field J, field K and field L.6			
DNS Host for second PC	PC2		J
DNS Host for third PC	PC3		K
DNS Host for fourth PC	----------		L
If field B above shows Specify an IP address, record a free IP address for each additional PC in field M, field N and field O. Ask your network administrator for assistance. If field A shows that IP addresses are obtained automatically, draw a line through field M, field N and field O.			
IP Address for second PC	192.168.163.22		M
IP Address for third PC	192.168.163.24		N
IP Address for fourth PC	----------		O
If field B above shows Specify an IP address, enter No in field P. If field I shows that the router's DHCP server is enabled, enter No in field P. If field A shows that IP addresses are obtained automatically and field I shows that the router's DHCP server is disabled, enter Yes in field P.			
Another DHCP server to configure	No		P
If the PC has been used for Windows 95 or 98 dial up networking, enter Yes in field P.			
Change from dial up networking	Yes		Q

Check the first PC's configuration

1. On the first PC used to configure the router, in the Windows **Start** menu, point to **Settings** and click the **Control Panel**.

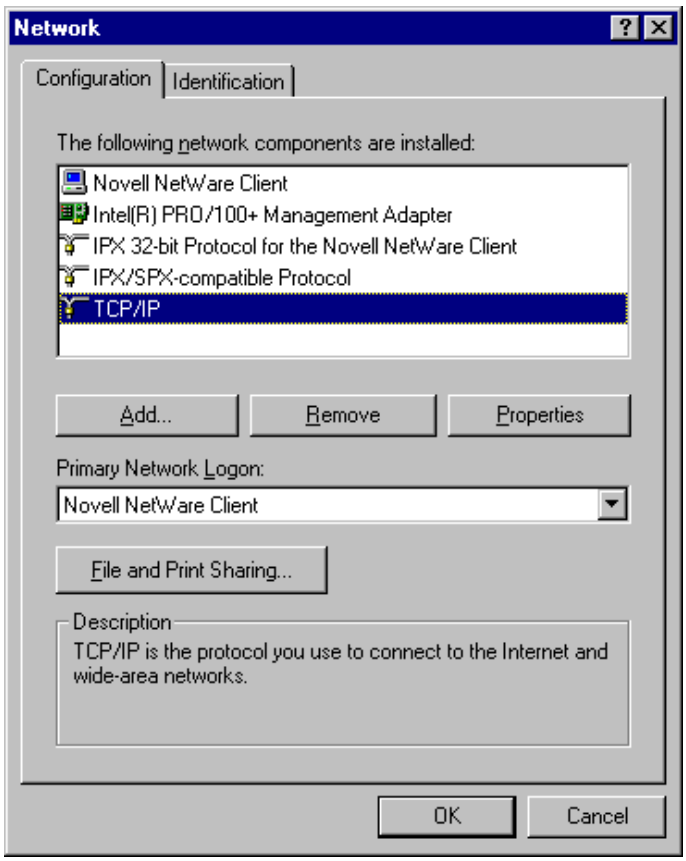
Figure 3-21: Windows Control Panel



2. Windows 95 and 98: In the **Control Panel**, double click the **Network** icon to display the **Network** dialog box.

   Windows 2000: In the **Control Panel**, click **Network and Dial-up Connections**. In the **Network and Dial-up Connections** dialog, right click on the **Local Area Connection** icon, and select **Properties**. The **Local Area Connection Properties** dialog opens, corresponding to the **Network** dialog in Windows 95 and 98.

Figure 3-22: Windows Network dialog

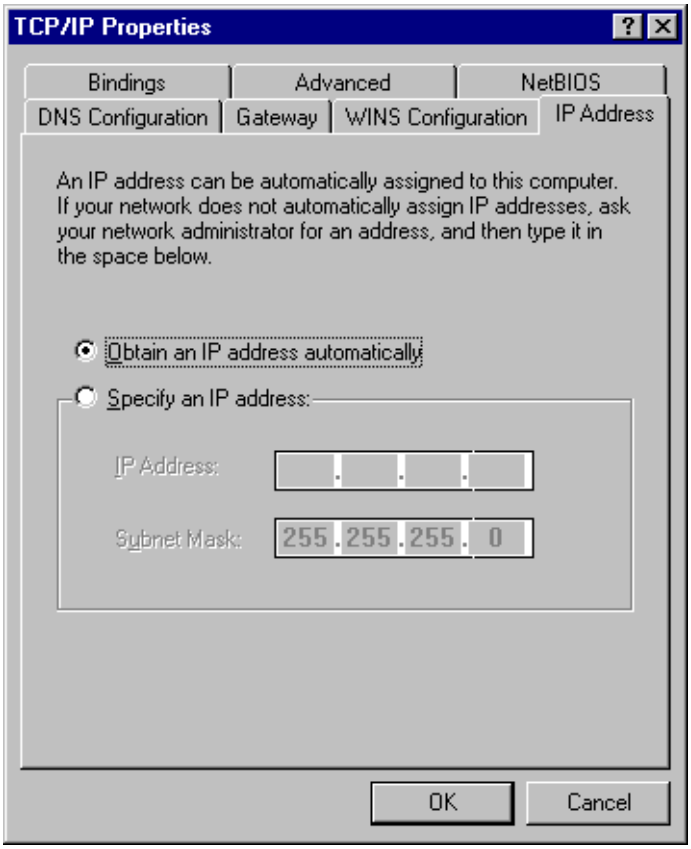


In the **Network** dialog box, select **TCP/IP** and click **Properties** to check the TCP/IP configuration. (If your PC has more than one network adapter, in the **Network** dialog box, select the TCP/IP entry for the network adapter connected to the router, and click **Properties**. If TCP/IP is installed over a Dial Up Adapter, do not select this.)

3. Windows 95 and 98: In the **TCP/IP Properties** dialog box, click on the **IP Address** tab.

   Windows 2000: The **Internet Protocol (TCP/IP) Properties** dialog corresponds to the **IP Address**, **DNS Configuration** and **Gateway** tabs in Windows 95 and 98.

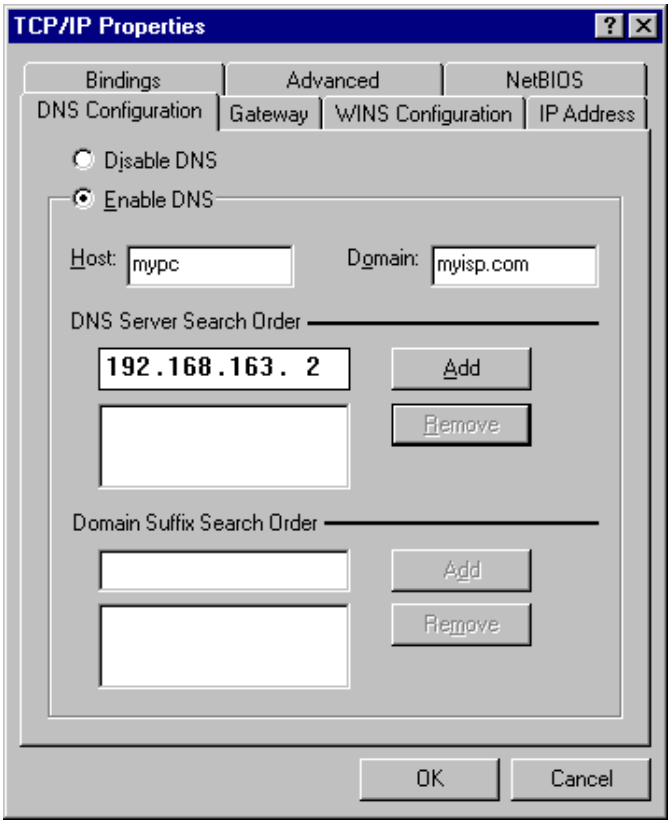
Figure 3-23: TCP/IP Properties - IP Address tab


TCP/IP Properties
Bindings
Advanced
NetBIOS
DNS Configuration
Gateway
WINS Configuration
IP Address
An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space below.
Obtain an IP address automatically
Specify an IP address:
IP Address:
Subnet Mask:
255 . 255 . 255 . 0
OK
Cancel

4. Record whether the PC is set to **Obtain IP address automatically** in field A in Table 3-1 on page 3-16, or **Specify an IP address** in field B in Table 3-1. If the PCs IP address is set to **Specify an IP address**, record the IP Address in field C and the Subnet Mask in field D in Table 3-1.

5. Click on the **DNS Configuration** tab.

Figure 3-24: DNS Configuration tab



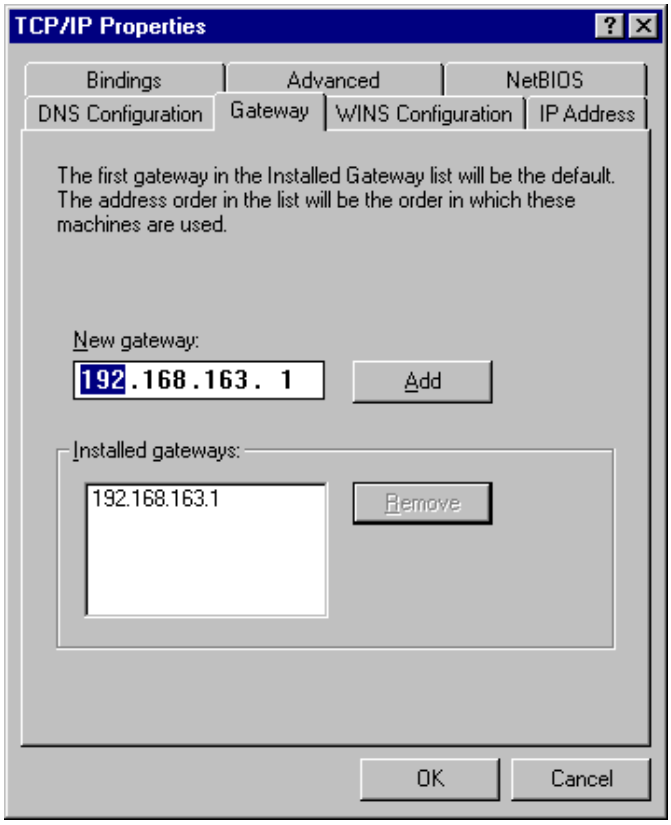
Record the host name in field F and the DNS server search order in field G in Table 3-1.

If the PC's IP address is set to **Specify an IP address** (field B in Table 3-1), continue at step 6 on page 3-21 to record the gateway.

If the PC's IP address is set to **Obtain an IP address automatically** (field A in Table 3-1) click **Cancel** to close the **TCP/IP Properties** dialog. Click **OK** to close the **Network** dialog. Click the **Close** button in the **Control Panel** title bar to close the **Control Panel**. Go to step 1 on page 3-22 to check the router's DHCP server.

6. Click on the **Gateway** tab to display the **Gateway** dialog.

Figure 3-25: Gateway tab

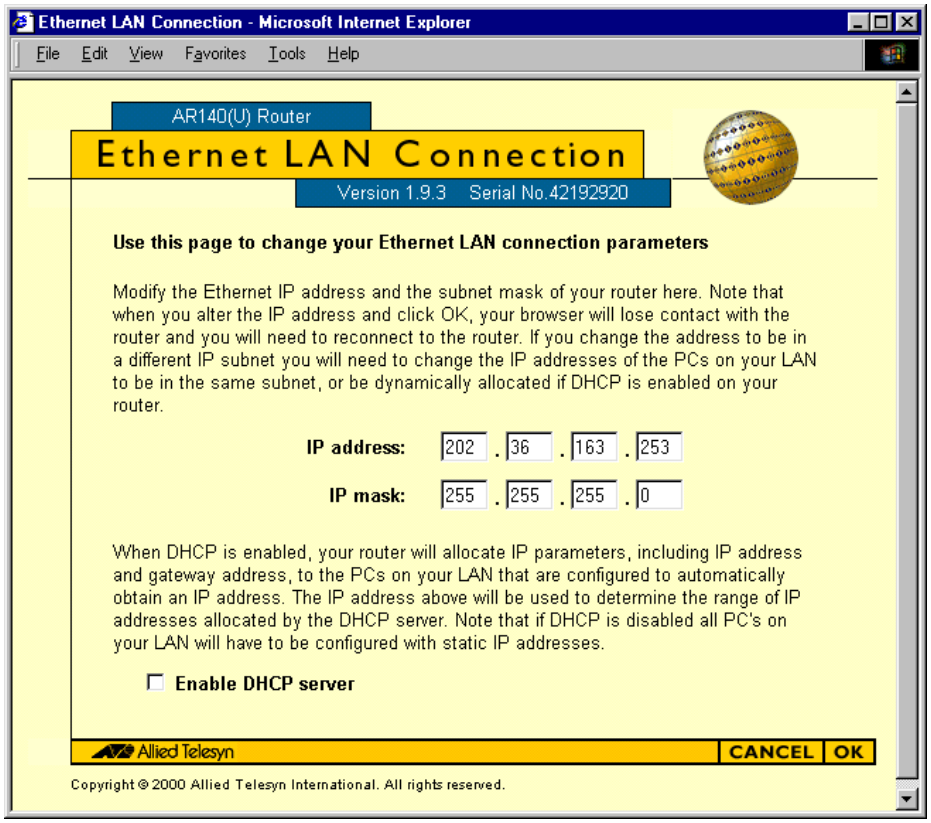


Record the gateway address in field H in Table 3-1. Click **Cancel** to close the TCP/IP Properties dialog box. Click **OK** to close the **Network** dialog box. Click the **Close** button in the Control Panel title bar to close the **Control Panel**. Go to step 2 on page 3-22.

Is the router's DHCP server enabled?

1. Using the first PC that configured the router, log into the router's **Menu** page and select **Update Configuration** to open the Update Configuration page. See *Chapter 7, Changing Your Configuration*. On the Update Configuration page, select **Ethernet Connection/Modify**.

Figure 3-26: Ethernet LAN Connection page in the AR100 Management Wizard


Ethernet LAN Connection - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(U) Router
Ethernet LAN Connection
Version 1.9.3 Serial No.42192920
Use this page to change your Ethernet LAN connection parameters
Modify the Ethernet IP address and the subnet mask of your router here. Note that when you alter the IP address and click OK, your browser will lose contact with the router and you will need to reconnect to the router. If you change the address to be in a different IP subnet you will need to change the IP addresses of the PCs on your LAN to be in the same subnet, or be dynamically allocated if DHCP is enabled on your router.
IP address: 202 . 36 . 163 . 253
IP mask: 255 . 255 . 255 . 0
When DHCP is enabled, your router will allocate IP parameters, including IP address and gateway address, to the PCs on your LAN that are configured to automatically obtain an IP address. The IP address above will be used to determine the range of IP addresses allocated by the DHCP server. Note that if DHCP is disabled all PC's on your LAN will have to be configured with static IP addresses.
Enable DHCP server
Allied Telesyn
CANCEL OK
Copyright © 2000 Allied Telesyn International. All rights reserved.

Record whether the DHCP server is enabled or disabled in field I in Table 3-1 on page 3-16.

Caution: Do not change Ethernet LAN connection settings, as this is likely to stop communication between the PC and the router.

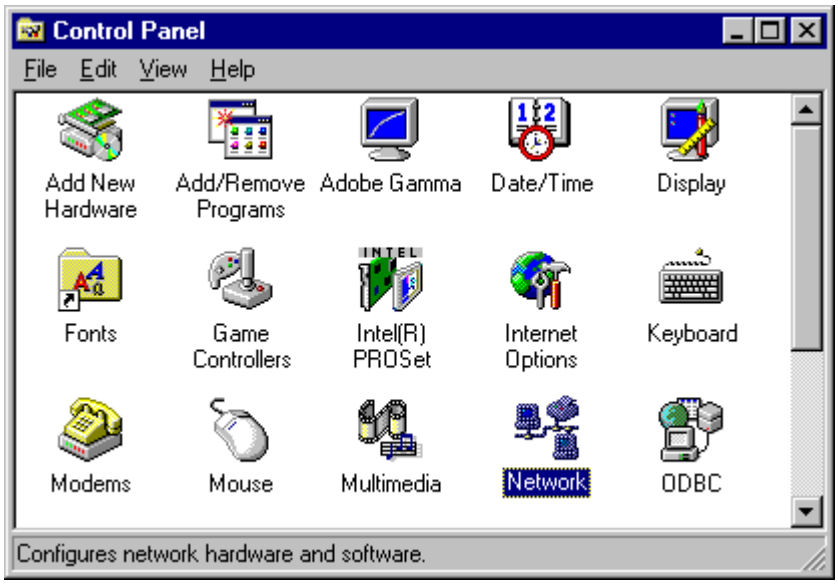
2. Enter DNS host names for the additional PCs in fields J, K and L in Table 3-1. If the PCs do not already have DNS host names, you can make up unique names for them. If field B in Table 3-1 shows **Specify an IP address**, enter free IP addresses for the additional PCs in fields M, N and O in Table 3-1. Ask your network administrator for assistance.
3. If field I in Table 3-1 shows that the router's DHCP server is enabled, enter No in field P in Table 3-1. If field B in Table 3-1 shows that IP addresses are statically allocated, enter No in field P in Table 3-1. If field I in Table 3-1 shows that the router's DHCP server is disabled, and field A in Table 3-1 shows that IP addresses are obtained automatically, there is another DHCP server (not the AR100) on your LAN. Enter Yes in field P in Table 3-1. You will need to configure the other DHCP server to allocate dynamic configuration values to the additional PCs. Ask your network administrator for assistance.

Configure TCP/IP on additional PCs

You now have all the information you need to configure TCP/IP on the additional PCs. For each additional PC, follow these steps.

1. In the Windows **Start** menu, point to **Settings** and click the **Control Panel.**

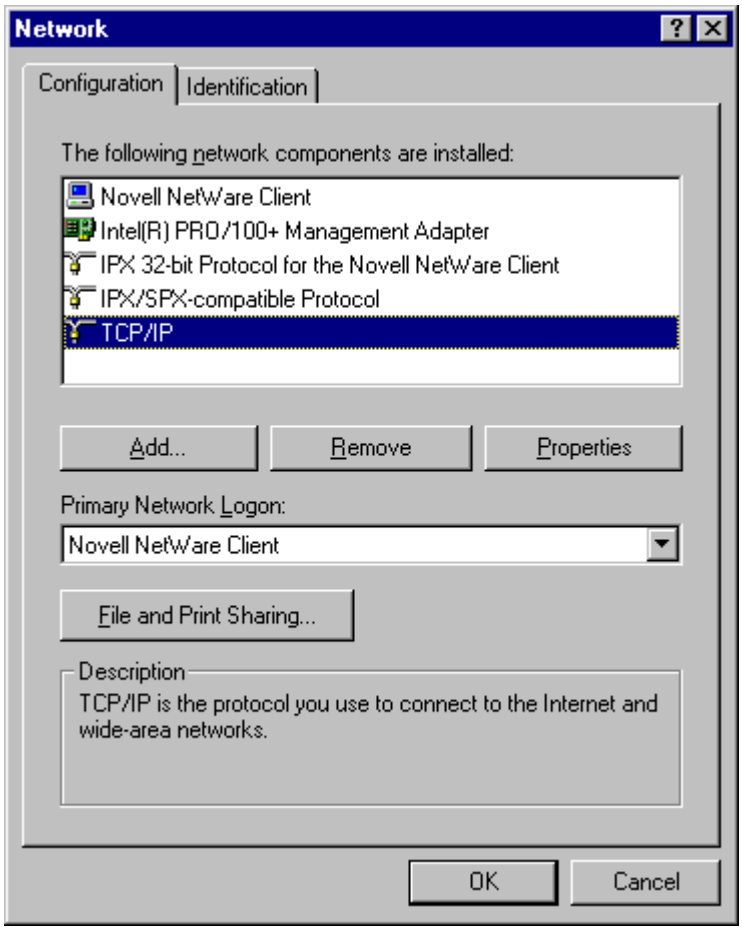
Figure 3-27: Windows Control Panel



2. Windows 95 and 98: In the **Control Panel**, double click the **Network** icon to display the **Network** dialog.

   Windows 2000: In the **Control Panel**, click **Network and Dial-up Connections**. In the **Network and Dial-up Connections** dialog, right click on the **Local Area Connection** icon, and select **Properties**. The **Local Area Connection Properties** dialog opens, corresponding to the **Network** dialog in Windows 95 and 98. (If the **Local Area Connection** icon does not appear, check that your network adapter card is correctly installed and configured.)

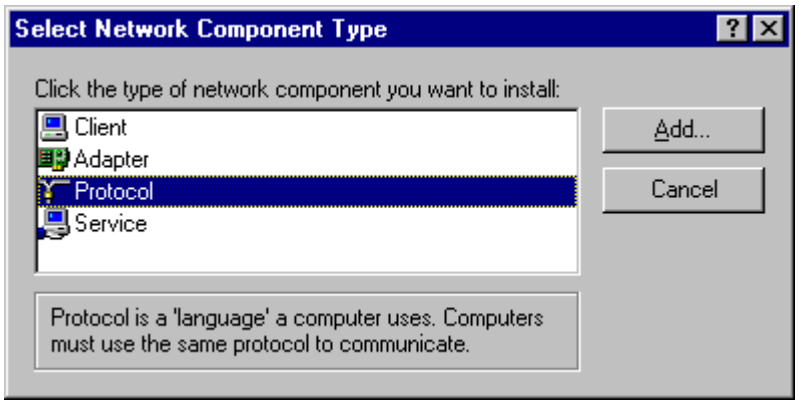
Figure 3-28: Windows Network dialog.



If **TCP/IP** appears in the list of network components, then it is already installed. Go to step 5 on page 3-25.

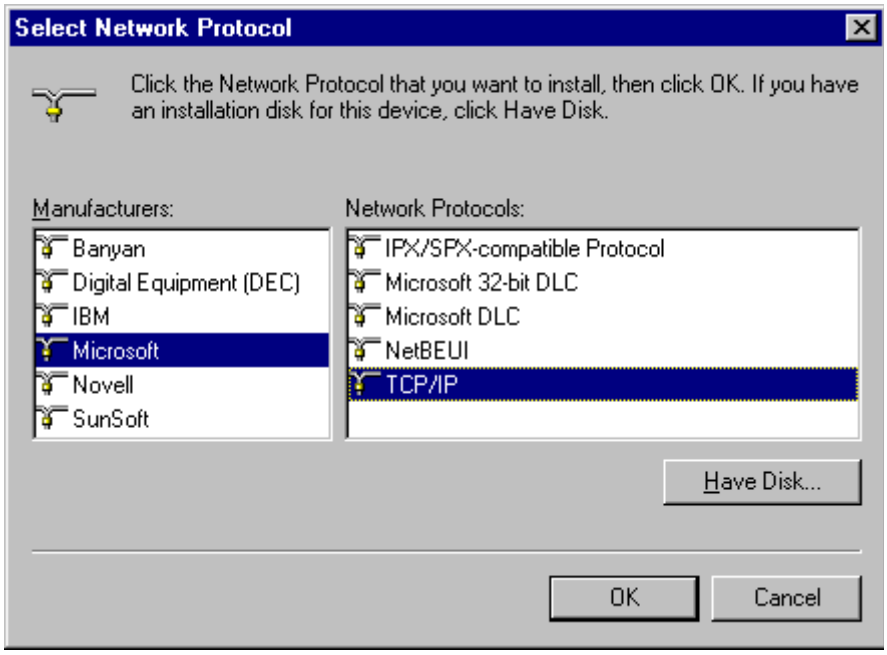
3. If TCP/IP does not appear in the list of network components, click **Add** in Windows 95 or 98, or **Install** in Windows 2000, to display the **Select Network Component Type** dialog box.

Figure 3-29: Select Network Component Type dialog



4. Select **Protocol** and click **Add** to display the **Select Network Protocol** dialog.

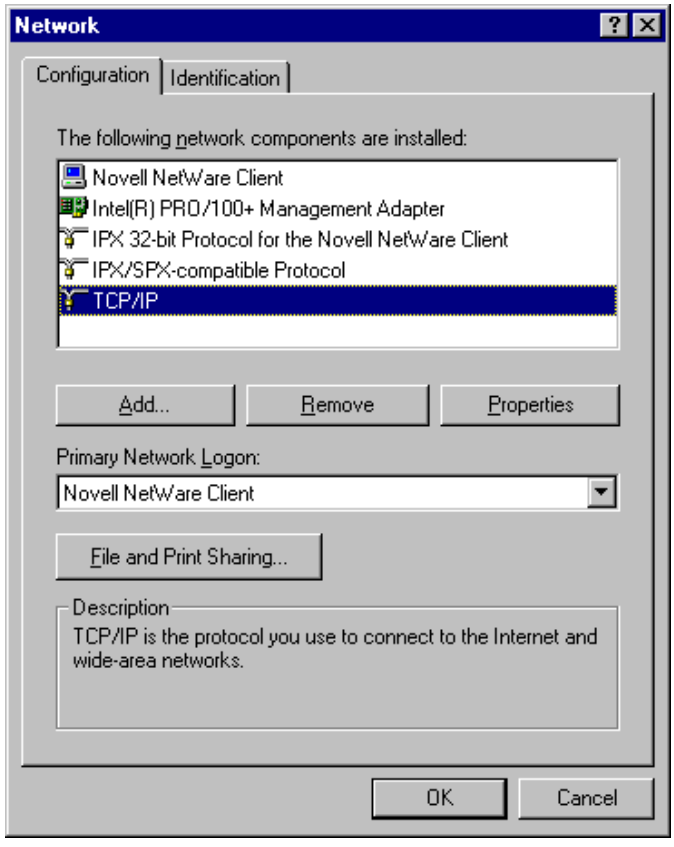
Figure 3-30: Select Network Protocol dialog.



Select **Microsoft** from the **Manufacturers** list and **TCP/IP** from the **Network Protocols** list. Click **OK** to dismiss the dialog box.

5. In the **Network** dialog box, select **TCP/IP** and click **Properties.** (If your PC has more than one network adapter, in the **Network** dialog box, select the TCP/IP entry for the network adapter connected to the router, and click **Properties**. If TCP/IP is installed over a Dial Up Adapter, do not select this.)

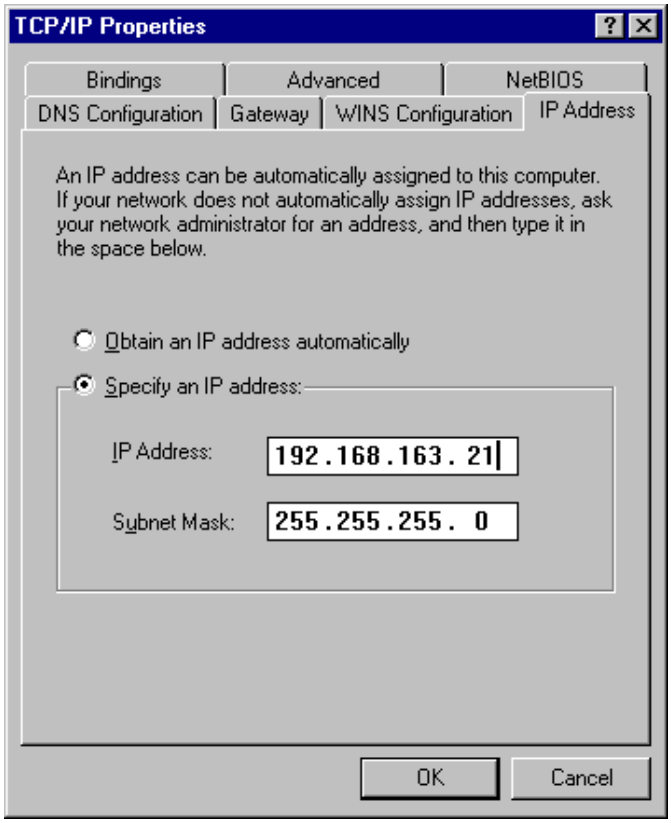
Figure 3-31: Network dialog.



6. Windows 95 and 98: In the **TCP/IP Properties** dialog box, click on the **IP Address** tab.

   Windows 2000: The **Internet Protocol (TCP/IP) Properties** dialog corresponds to the **IP Address**, **DNS Configuration** and **Gateway** tabs in Windows 95 and 98.

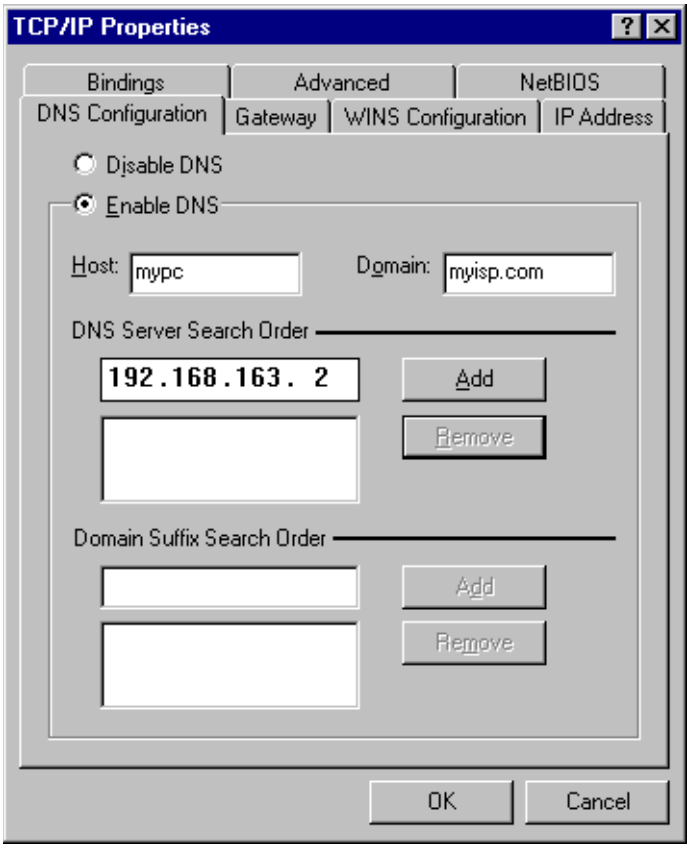
Figure 3-32: TCP/IP Properties IP Address tab



   If field A in Table 3-1 shows the IP addresses are obtained automatically, select **Obtain IP address automatically**. If field B in Table 3-1 shows Specify an IP address, select **Specify an IP address** and enter the IP address for the new PC from fields M, N or O in Table 3-1.

7. Click on the **DNS Configuration** tab.

Figure 3-33: DNS Configuration tab



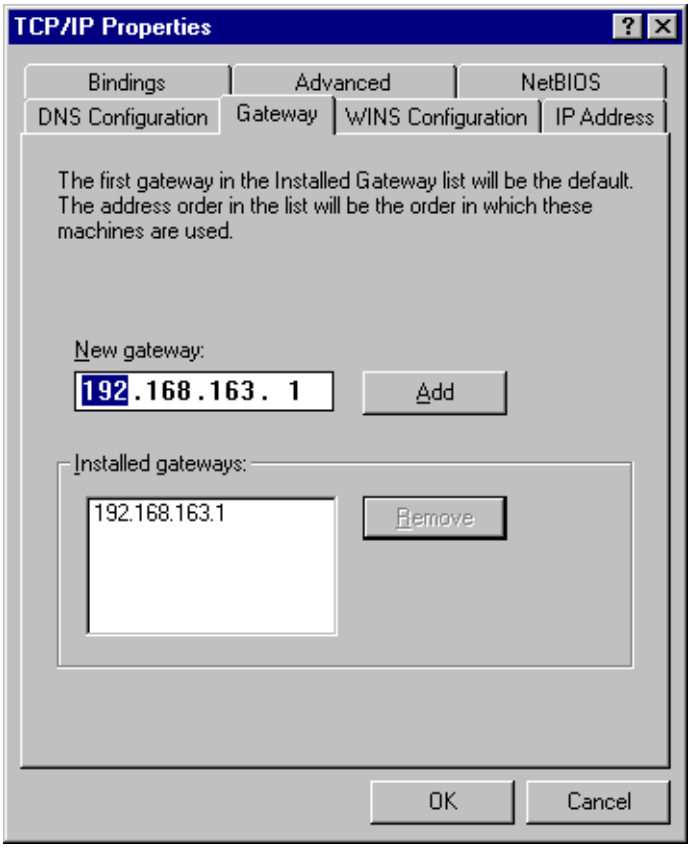
Select **Enable DNS**. Enter the DNS host name for the additional PC from fields J, K and L in Table 3-1. Enter the DNS Server Search Order from field G in Table 3-1.

If field A in Table 3-1 shows the IP addresses are obtained automatically, click **OK** to save your changes and close the **TCP/IP Properties** dialog box. Click **OK** to close the **Network** dialog box. Restart your PC when prompted to put the configuration changes into effect. Go to step 9 on page 3-28 to check your Internet connection properties.

If field B in Table 3-1 shows **Specify an IP address**, continue at step 8 on page 3-28 to enter the gateway address.

8. Click the **Gateway** tab.

Figure 3-34: Gateway tab



Enter the gateway address from field H in Table 3-1. Click **OK** to save your changes and close the **TCP/IP Properties** dialog. Click **OK** to close the **Network** dialog. Restart your PC when prompted to put the configuration changes into effect.

Changing from dial-up networking

If you have been using Windows dial-up networking for your connections to the Internet or a remote office previously, you may need to change the connection parameters so that your PC will use the router for your remote connections.

9. In the Control Panel, double click on the **Internet**, **Internet Connections** or **Internet Options** icon to open the **Internet Properties** dialog. Click on the **Connections** tab.

   Windows 95: If you have a check box labelled **Connect to the Internet as needed**, UNCHECK it.

   If you do not have this check box, but you do have an option to **Connect to the Internet using a local area network**, CHECK this instead.

   Windows 98 or 2000: Select **Never dial a connection**.

   Click OK to save your changes and close the **Internet Properties** dialog. Click the **Close** button in the Control Panel title bar to close the **Control Panel**.

Chapter 4

About Web Access to the AR100

The AR100 Configuration Wizard makes configuring your router easy, whether you want to configure it for the first time, view or change an existing configuration, monitor the router's operation, test connections, troubleshoot network problems or upgrade the software for your router.

Web pages and your browser

You configure the router using a web browser. If you do not have a browser installed on your computer already, install the Netscape Navigator or Microsoft Internet Explorer software from the *Installer and Documentation CD-ROM*, as described in "*Installing support software*" on page 3-7.

Because the configuration information needed differs for the ISDN services available in different countries, some of the wizard pages may differ from those shown in this User Guide. There may also be small differences in these pages depending on the web browser and the version of the router software you are using.

AR100 Configuration Wizard

When you configure the router for the first time, the AR100 Configuration Wizard asks for the configuration information specific to your router setup. The wizard gives the router a standard configuration that will suit most users. Once the wizard is finished, it saves your configuration in a script that it will keep using, even when you update to a new version of the software.

AR100 Management Wizard

Once the router has been configured, you have access to the **AR100 Main Menu page (Figure 4-2)** with links to the router's utilities to update the router configuration, monitor the router's operation, and download software updates.

One at a time

Only one user at a time can access the AR100 Configuration Wizard to configure the router. If you leave the wizard for more than thirty minutes while you are in the middle of configuring it, another user can log into it. This will restart the configuration wizard without permanently saving any of the configuration. The second user can then configure the router from the beginning.

More than one person can access the AR100 Management Wizard **Main Menu** and **Monitoring** pages of a configured router at the same time, since these pages are not used to change the router's configuration. If you leave the other AR100 Management Wizard pages for more than thirty minutes, a second user can access the pages. If they do, then you (the first user) will lose access to the Management Wizard pages. Otherwise you will get another thirty minutes exclusive access to the Management Wizard pages as soon as you start using them again.

Security

When you have completed the Configuration Wizard and arrive at the Main Menu page, we recommend that you change the management password. This is the password you use to log in to the router. It is very important that you remember this password, as it is encrypted, and there is no way to retrieve it from the router.

Note that the other passwords entered on the Configuration Wizard pages for connecting to your ISP or remote office can be seen by anyone backing through the web browser pages on the PC.

Access the router with your web browser

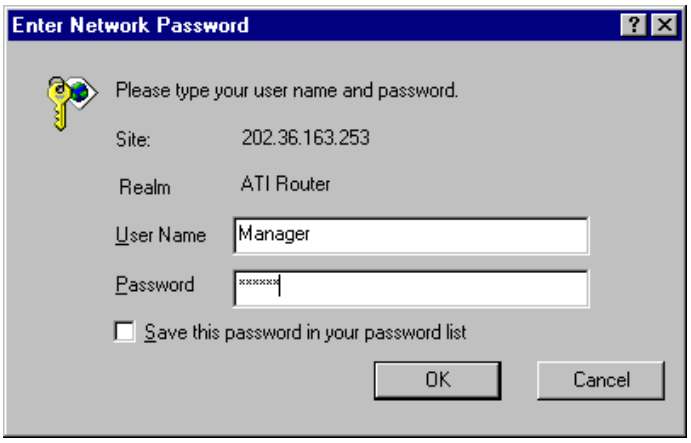
1. Insert the Installer and Documentation CD-ROM in the CD ROM drive. The **CD-ROM Main Menu screen (Figure 3-8)** is displayed. Click **Configure Router**. The **Welcome to the AR100 Access Wizard dialog (Figure 3-10)** opens. Click **Start**. The **Select a Router dialog (Figure 3-11)** opens.
2. Select the router you want access to, and click **Next**.

   If you select an uninitialised router, the AR100 Access Wizard leads you through the configuration process. See "*Getting the PC and router communicating*" on page 3-8.

   If you select an initialised router, your web browser is connected to the router, and the **Enter Network Password dialog (Figure 4-1)** opens.

3. The **Enter Network Password dialog (Figure 4-1)** allows only authorised users with the correct password to access the router. (The appearance of this dialog may differ depending on the browser you use.)

Figure 4-1: Enter Network Password dialog



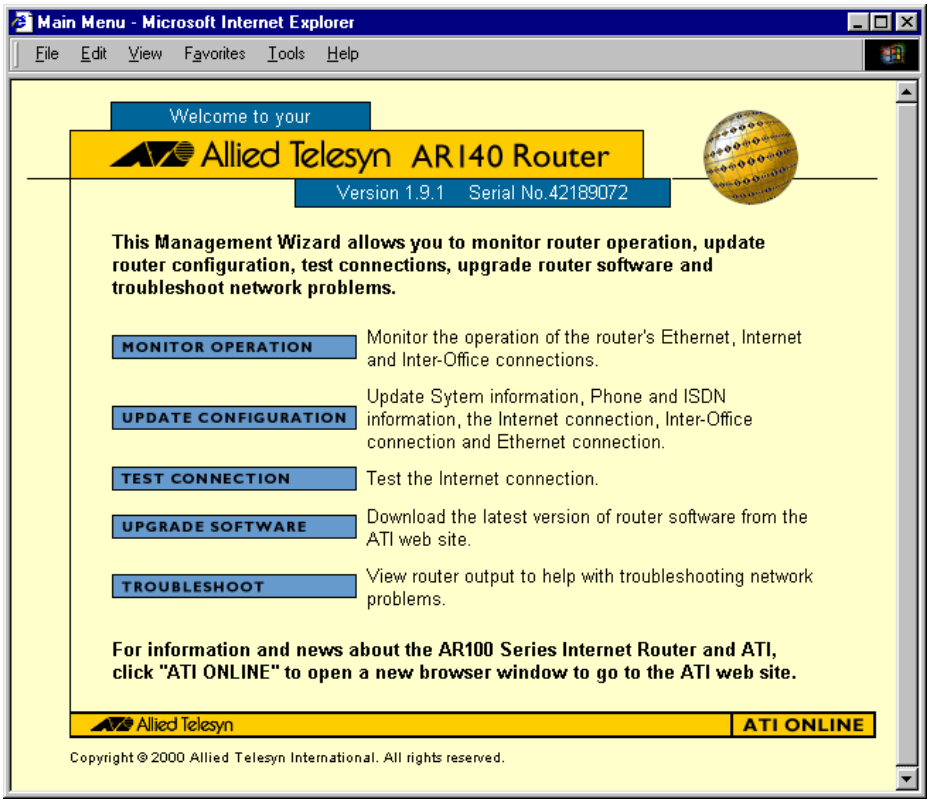
- Enter the username *manager* and the password *friend*.

If you selected a router that has not yet been configured, your web browser will take you through the AR100 Configuration Wizard. Follow the instructions in *Chapter 5, Configuring for the First Time*.

If you selected a router that has been configured, your web browser opens the AR100 Management Wizard's **AR100 Main Menu page (Figure 4-2)**.

4. The **AR100 Main Menu page (Figure 4-2)** lets you change the router's configuration, monitor its operation, or download the latest router software release.

Figure 4-2: AR100 Main Menu page


Main Menu - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Welcome to your
Allied Telesyn AR140 Router
Version 1.9.1 Serial No.42189072
This Management Wizard allows you to monitor router operation, update router configuration, test connections, upgrade router software and troubleshoot network problems.
MONITOR OPERATION
Monitor the operation of the router's Ethernet, Internet and Inter-Office connections.
UPDATE CONFIGURATION
Update Sytem information, Phone and ISDN information, the Internet connection, Inter-Office connection and Ethernet connection.
TEST CONNECTION
Test the Internet connection.
UPGRADE SOFTWARE
Download the latest version of router software from the ATI web site.
TROUBLESHOOT
View router output to help with troubleshooting network problems.
For information and news about the AR100 Series Internet Router and ATI, click "ATI ONLINE" to open a new browser window to go to the ATI web site.
Allied Telesyn
ATI ONLINE
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- To change the router's configuration, click Update Configuration, and follow the instructions in *Chapter 7, Changing Your Configuration*.

- If you haven't yet changed the initial manager password, we recommend that you do this now, by following the instructions in "*Changing system information*" on page 7-2.
- To use the other router utilities available from the Main Menu, see *Chapter 9, Accessing Router Utilities*.
- If you have an Internet connection, you can go to the Allied Telesyn International support page by clicking **ATI Online**.

Navigating the configuration pages

While using the AR100 Configuration and Management Wizards, use the buttons on the pages to navigate, not the browser's Back and Forward buttons, to ensure that configuration information is stored correctly.

Saving and exiting the web pages

The AR100 Configuration Wizard saves the configuration you enter when you click **End Wizard** on the Configuration Summary page. If you leave the Configuration Wizard before clicking **End Wizard**, no configuration data is saved, and you will have to run the Wizard again from the beginning.

The AR100 Management Wizard saves any configuration changes you make when you click **OK** in the page where the changes are made.

To leave either the Configuration or Management Wizards, simply close the web browser, or use it to go to another web address outside of the router's pages.

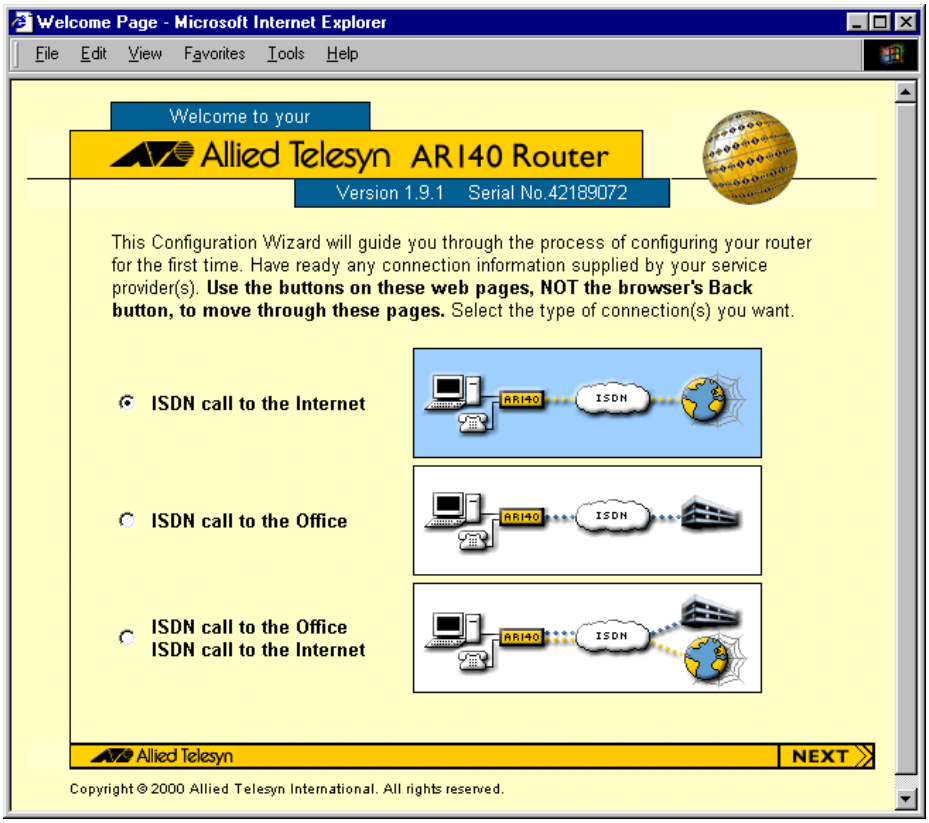
Chapter 5

Configuring for the First Time

This chapter gives step by step instructions for configuring your router for the first time for dial-on-demand ISDN connections with the web based AR100 Configuration Wizard. If you are in Germany or Austria and have an ISDN leased line, see *Chapter 6, Configuring for a Leased Line*. For more general information about using these web pages, see *Chapter 4, About Web Access to the AR100*. Gather all the information in the configuration checklist included in the section for your kind of connection before you run this wizard. Hardware, software and service requirements are described in "*What does your AR100 need?*" on page 1-3.

When you log into a router that has not yet been configured, the **Welcome page for the AR100 Configuration Wizard (Figure 5-1)** opens.

Figure 5-1: Welcome page for the AR100 Configuration Wizard


Welcome Page - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Welcome to your
Allied Telesyn AR140 Router
Version 1.9.1 Serial No.42189072
This Configuration Wizard will guide you through the process of configuring your router for the first time. Have ready any connection information supplied by your service provider(s). Use the buttons on these web pages, NOT the browser's Back button, to move through these pages. Select the type of connection(s) you want.
ISDN call to the Internet
ISDN call to the Office
ISDN call to the Office
ISDN call to the Internet
AR140
ISDN
Allied Telesyn
NEXT
Copyright © 2000 Allied Telesyn International. All rights reserved.

This is the beginning of a series of pages that ask you for specific information about your connections. The wizard creates a standard configuration that will suit most users. If you want to change this initial configuration, add a new connection, or remove a connection, you can do this later, as described in *Chapter 7, Changing Your Configuration*.

While using the wizard, if you want to go back to a previous page, use the **Back** button on the pages, not the browser's Back button, so that your configuration will be correctly stored. If you need to restart the wizard, re-insert the AR100 CD into the PC's CD-ROM drive, and click **Configure Router** again.

Go to the section that describes the kind of connection(s) you want, and follow the instructions to configure your router.

- "*Internet dial-on-demand connection*" on page 5-3
- "*Inter-office dial-on-demand connection*" on page 5-9
- "*Internet and inter-office dial-on-demand connections*" on page 5-15
- Leased lines or leased and dial-on-demand lines - *Chapter 6, Configuring for a Leased Line*

Internet dial-on-demand connection

1. Print out the following configuration checklist, and gather the information required.

Table 5-1: Checklist for Internet connections, ISDN Dial-on-Demand.

Configuration parameter	Examples	Enter your data below
If you have an AR140 with phone ports, your ISDN provider may have supplied you with one or two ISDN numbers that external callers will use to ring the phone extensions. In North America your ISDN service may support call waiting. If so, decide whether to enable it on each phone port. Determine whether you want a call to one of the phones to ring both phones, or only that phone.		
Local ISDN number for Phone 1	356767	
Enable or disable call waiting on Phone 1 (North America only)	Enable call waiting	
Local ISDN number for Phone 2	356768	
Enable or disable call waiting on Phone 2 (North America only)	Disable call waiting	
Each number rings one or both phones?	Ring only the phone on the port for the number called	
In North America, you will also need some ISDN set-up information from your ISDN service provider. This may include the ISDN switch type to which you are connected, SPIDs and associated phone or directory numbers to identify your ISDN service, and your ISDN connection speed.		
ISDN switch type	NI1	
SPID 1	246246200	
Local data number 1	2462462	
SPID 2	246345701	
Local data number 2	2463457	
ISDN connection speed	56K, 64K	
You need the following information from your ISP service provider. The ISDN number is the phone number your router will dial to connect to your ISP (through which you access the Internet). Most ISPs dynamically allocate IP addresses. If your ISP has given you a fixed IP address, record it here. In Australia your ISDN service may offer a lower rate for a semi-permanent connection. For instance, if you subscribe to OnRamp Express, configure your router to make calls semi-permanent. If the office at the other end of your connection subscribes to OnRamp Express, do not make your calls semi-permanent, as they will be charged at the higher rate.		
ISP ISDN number	3456789	
ISP Username	janes	
ISP Password	tea4tWo	
IP address or dynamic allocation	Dynamic	
Make ISDN call semi-permanent (Australia only)	Yes	

2. On the **Welcome** page, choose **ISDN call to the Internet**. Click **Next**.

   If you have an AR140 router with phone ports, the **Phone Setup page (Figure 5-2)** opens. Continue at step 3 on page 5-4.

   If you have an AR130 router without phone ports and are in North America, the **ISDN Setup page (Figure 5-3)** opens. Go to step 4 on page 5-5.

   If you have an AR130 router without phone ports, and you are not located in North America, the **Internet Connection page for ISDN Dial-on-Demand (Figure 5-4)** opens. Go to step 5 on page 5-6.

3. The **Phone Setup page (Figure 5-2)** only appears on the AR140 with phone ports. It allows you to enter the telephone numbers that people will use to call the telephones or facsimile machines you connect to these phone ports.

Figure 5-2: Phone Setup page

Phone Setup - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Phone Setup
Version 1.9.1 Serial No.42189072
Enter the telephone numbers allocated to you by your ISDN provider for the phone ports on your router. These are the telephone numbers that people will use to call you. If you only have one number, leave the other one blank.
Number for phone port 1: 234567
Number for phone port 2: 234568
If your ISDN service supports call waiting, and you want to use it, enable it here.
Enable call waiting for phone port 1
Enable call waiting for phone port 2
Select the ring mode for the phone ports:
A call to either number will ring both phones
A call to a number will ring only the phone connected to that port
Allied Telesyn
BACK
NEXT
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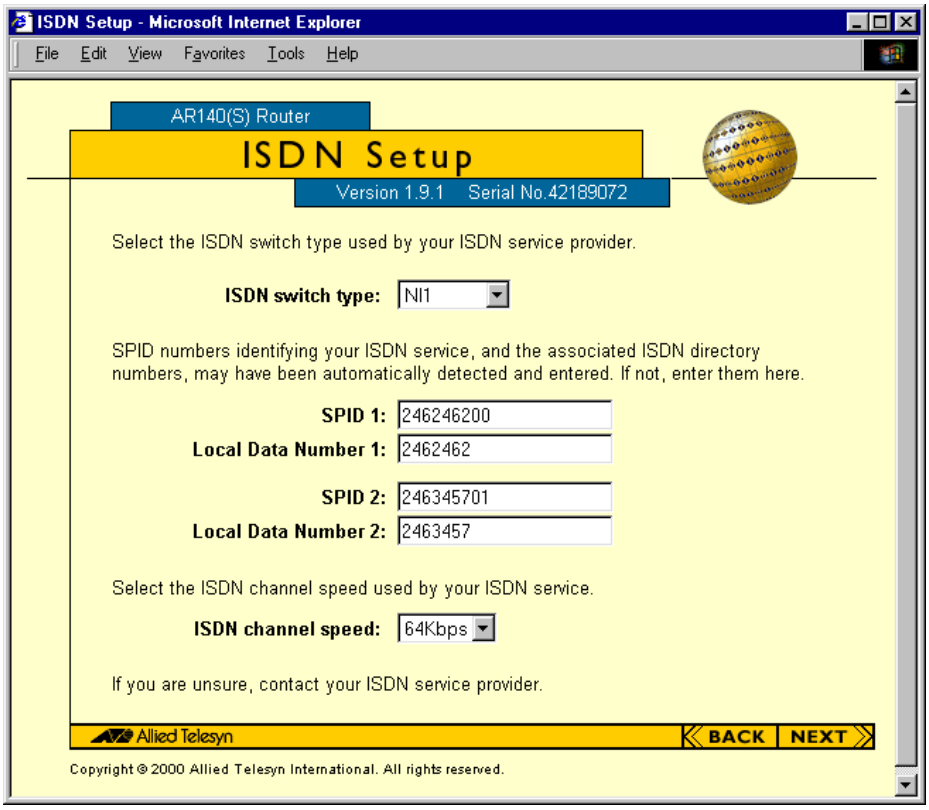
- Enter the local telephone numbers allocated to you by your ISDN provider. If you only have one number, leave the other blank.
- If you are in North America and your ISDN service supports Call Waiting, choose whether or not to enable it for each phone port.
- Select whether you want both phones to ring when either number is called, or only the phone on the port for the number called. Click **Next**.

If you are in North America the **ISDN Setup page (Figure 5-3)** opens. Continue at step 4 on page 5-5.

Otherwise the **Internet Connection page for ISDN Dial-on-Demand (Figure 5-4)** opens. Go to step 5 on page 5-6.

4. The **ISDN Setup page (Figure 5-3)** appears only in North America to allow you to enter ISDN configuration information. The ISDN switch type to which you are connected and the SPID information are available from your ISDN service provider.

Figure 5-3: ISDN Setup page


ISDN Setup - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
ISDN Setup
Version 1.9.1 Serial No.42189072
Select the ISDN switch type used by your ISDN service provider.
ISDN switch type: NI1
SPID numbers identifying your ISDN service, and the associated ISDN directory numbers, may have been automatically detected and entered. If not, enter them here.
SPID 1: 246246200
Local Data Number 1: 2462462
SPID 2: 246345701
Local Data Number 2: 2463457
Select the ISDN channel speed used by your ISDN service.
ISDN channel speed: 64Kbps
If you are unsure, contact your ISDN service provider.
Allied Telesyn
BACK
NEXT
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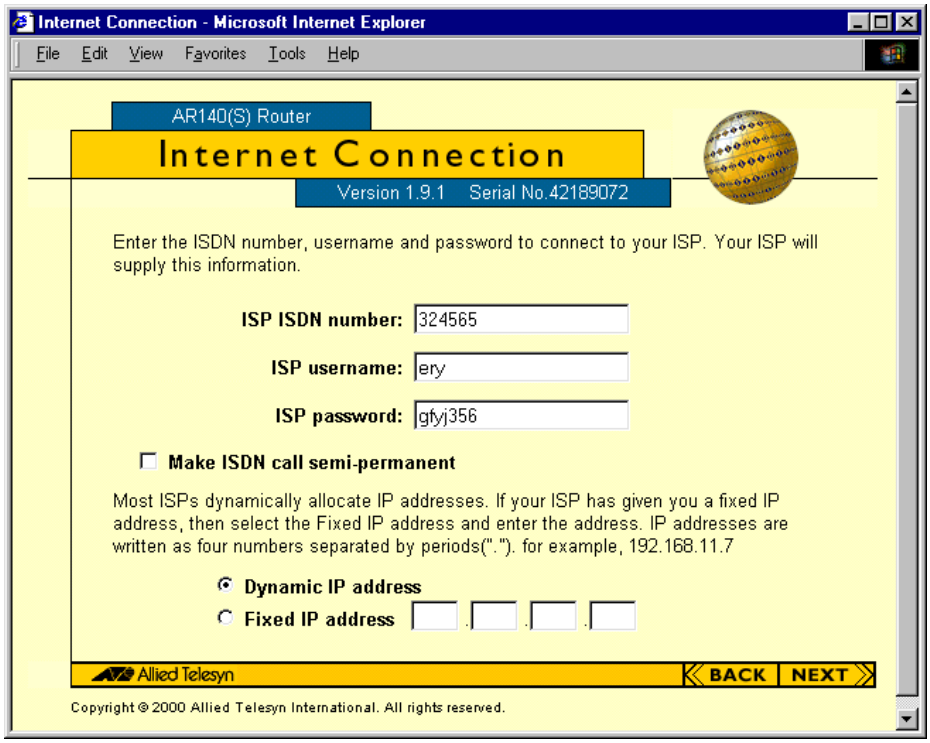
- Select the ISDN switch type to which you are connected.
- Enter SPID numbers and data directory numbers.
- Select your ISDN connection speed.
- Click Next.

5. The **Internet Connection page for ISDN Dial-on-Demand (Figure 5-4)** allows you to enter configuration information for your Internet connection. Your ISP will have given you account information that the router needs to connect to the Internet through your ISP.

Figure 5-4: Internet Connection page for ISDN Dial-on-Demand


Internet Connection - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Internet Connection
Version 1.9.1 Serial No.42189072
Enter the ISDN number, username and password to connect to your ISP. Your ISP will supply this information.
ISP ISDN number: 324565
ISP username: ery
ISP password: gfyj356
Make ISDN call semi-permanent
Most ISPs dynamically allocate IP addresses. If your ISP has given you a fixed IP address, then select the Fixed IP address and enter the address. IP addresses are written as four numbers separated by periods("."). for example, 192.168.11.7
Dynamic IP address
Fixed IP address
Allied Telesyn
BACK
NEXT
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- Enter your ISP's ISDN number. This is the phone number or directory number that your router dials to call your ISP.
- Enter the username and password your router will use to connect to the ISP.
- Choose dynamic or fixed IP address. Most ISPs dynamically allocate IP addresses, but some allocate fixed IP addresses. If your ISP has given you an IP address, select Fixed IP address and enter the IP address. Otherwise select Dynamic IP address.
- The **Make ISDN call semi-permanent** check box appears in Australia only. In Australia, some ISDN service providers have charges appropriate to semi-permanent ISDN calls, for instance OnRamp Express. If you select **Make call semi-permanent** the call will be kept up and will be reconnected if a fault in the ISDN network disconnects it. Choose whether or not to make ISDN calls to the Internet semi-permanent.

Note for Australia only: To make this call semi-permanent, you will also need to set the Auto-disconnect time to **Off**. After you have finished the Configuration Wizard, see the **Internet Connection page (Figure 7-5)**.

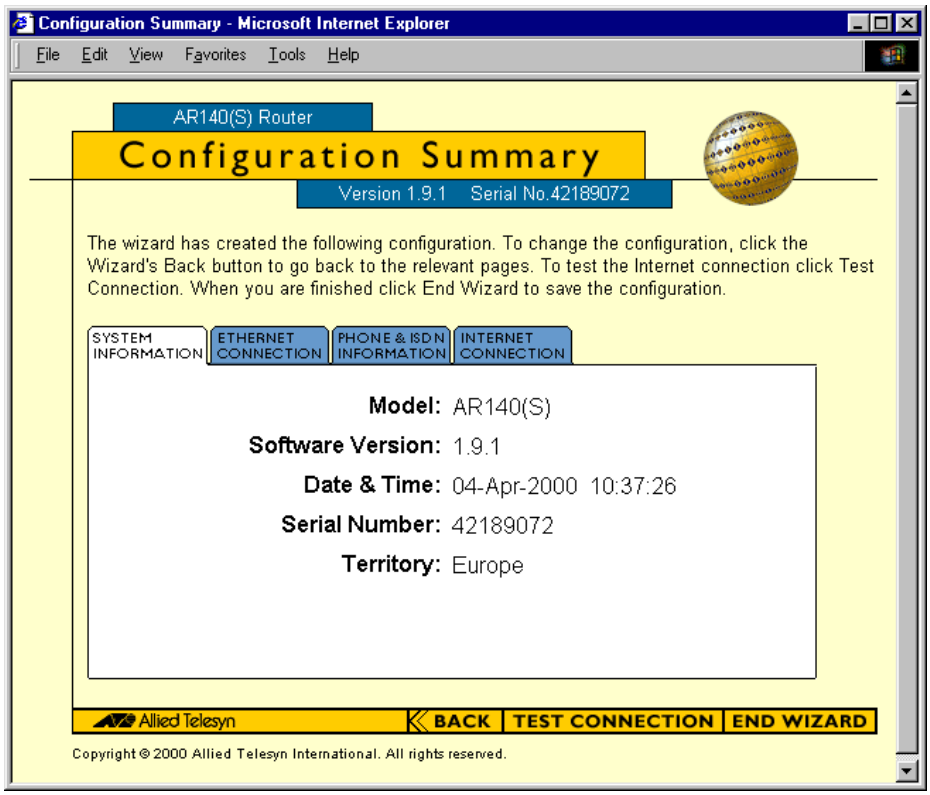
Waution for Australia only: If you subscribe to OnRamp Express, outgoing calls will be charged at a lower rate than the casual ISDN call charge. Calls from a subscriber that does not have OnRamp Express to a subscriber that does have OnRamp Express will be charged at the higher casual rate, even if

the call is made semi-permanent. This could lead to high ISDN call charges. If unsure, check with your ISDN service provider.

- Click **Next**.

6. The **Configuration Summary page for an Internet connection (Figure 5-5)** shows a summary of all the router configuration parameters you have entered, as well as standard parameters in the configuration.

Figure 5-5: Configuration Summary page for an Internet connection


Configuration Summary - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Configuration Summary
Version 1.9.1 Serial No.42189072
The wizard has created the following configuration. To change the configuration, click the Wizard's Back button to go back to the relevant pages. To test the Internet connection click Test Connection. When you are finished click End Wizard to save the configuration.
SYSTEM INFORMATION
ETHERNET CONNECTION
PHONE & ISDN INFORMATION
INTERNET CONNECTION
Model: AR140(S)
Software Version: 1.9.1
Date & Time: 04-Apr-2000 10:37:26
Serial Number: 42189072
Territory: Europe
Allied Telesyn
BACK
TEST CONNECTION
END WIZARD
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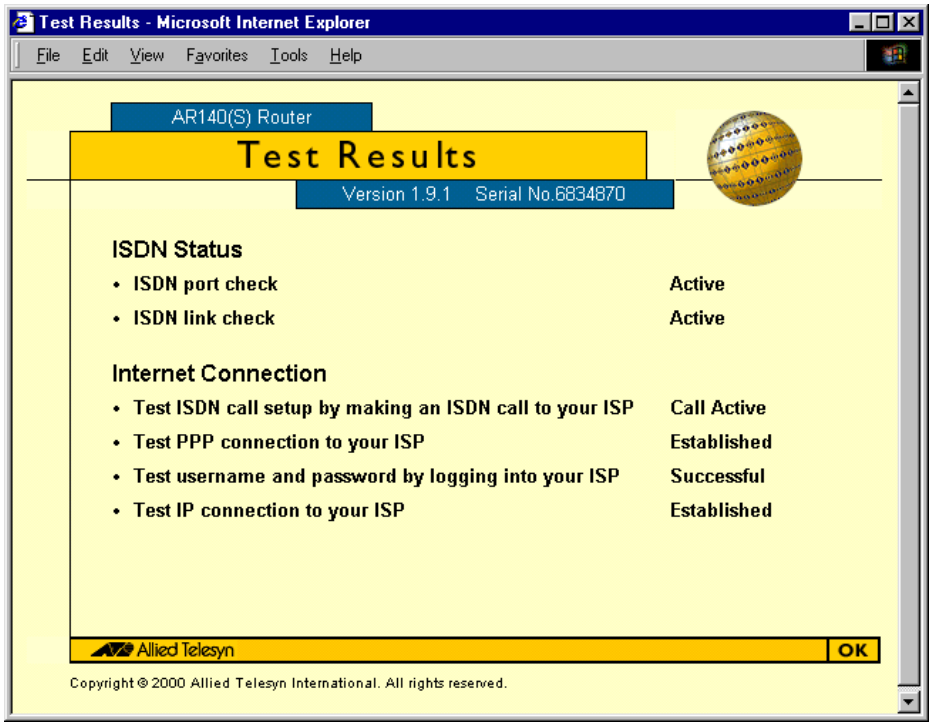
The wizard creates a standard configuration using the parameters you have entered. You can change these and other parameters from the **Main Menu** page in the future if you wish.

- If you wish to change any of the parameters you have entered, use the **Back** button at the bottom of the page to go back to the page you want to change.
- If you are satisfied with the configuration and want to test your Internet connection, click **Test Connection**. The **Test Results page (Figure 5-6)** opens to show you a summary of the connection test results.
- When you are satisfied with the configuration, click **End Wizard** to save the configuration. The **AR100 Main Menu page (Figure 4-2)** opens.
- Put a bookmark in your web browser at this page so that you can easily reach it in the future.

Note: You have gained access to the router to configure it by using the factory default password for the router's manager account. To limit unauthorised access to the router and its configuration, we recommend that you change this password as soon as you have configured the router for the first time. Go to"*Changing system information*" on page 7-2 of *Chapter 7, Changing Your Configuration*

7. The **Test Results** page shows a summary of which tests have been performed and the results. It takes a few seconds for all the tests to be run.

Figure 5-6: Test Results page


Test Results - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Test Results
Version 1.9.1 Serial No.6834870
ISDN Status
• ISDN port check Active
• ISDN link check Active
Internet Connection
• Test ISDN call setup by making an ISDN call to your ISP Call Active
• Test PPP connection to your ISP Established
• Test username and password by logging into your ISP Successful
• Test IP connection to your ISP Established
Allied Telesyn
OK
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- If all the tests succeeded, click **OK** to return to the **Configuration Summary** page.
- If any tests failed, note the test results (for instance, by printing out the Test Results page) and see "*Connection test fails*" on page 10-13. Click **OK** to return to the **Configuration Summary** page.

Inter-office dial-on-demand connection

1. Print out the configuration checklist, and gather the information required.

Table 5-2: Checklist for Inter-office connection, ISDN Dial-on-Demand.

Configuration parameter	Examples	Enter your data below
If you have an AR140 with phone ports, your ISDN provider may have supplied you with one or two ISDN numbers that external callers will use to ring the phone extensions. In North America your ISDN service may support call waiting. If so, decide whether to enable it on each phone port. Determine whether you want a call to one of the phones to ring both phones, or only that phone.		
Local ISDN number for Phone 1	35676767	
Enable or disable call waiting on Phone 1 (North America only)	Enable call waiting	
Local ISDN number for Phone 2	356767	
Enable or disable call waiting on Phone 2	Disable call waiting	
Each number rings one or both phones?	RIng only the phone on the port for the number called	
In North America, you also need ISDN setup information from your ISDN service provider. This includes the ISDN switch type to which you are connected, SPIDs and associated phone numbers to identify your ISDN service, and your ISDN connection speed.		
ISDN switch type	NI1	
SPID 1	2462462-1	
Local data number 1	2462462	
SPID 2	2463457-2	
Local data number 2	2463457	
ISDN connection speed	56K, 64K	
You need the following information from your network administrator at the remote office. The router uses the remote office ISDN number, username and password to contact the remote office. The local username and password are used by the remote office router to connect to your router. If your network administrator does not supply these, create your own local username and password using only letters and digits. Remember to give these to your network administrator at the remote office. In Australia your ISDN service may offer a lower rate for a semi-permanent connection. If you subscribe to OnRamp Express, configure your router to make calls semi-permanent. If the office at the other end of your connection subscribes to OnRamp Express, do not make your calls semi-permanent, as they will be charged at the higher rate.		
Remote office ISDN number	345678	
Remote office username	canterbury	
Remote office password	lookB4	
Local office username	northland	
Local office password	icur2Ys4me	
Make ISDN call semi-permanent (Australia only)	Yes	

2. On the **Welcome** page choose **ISDN call to the Office**. Click **Next**.

   If you have an AR140 router with phone ports, the **Phone Setup page (Figure 5-7)** opens. Continue at step 3 on page 5-10.

   If you have an AR130 router without phone ports and are in North America, the **ISDN Setup page (Figure 5-8)** opens. Go to step 4 on page 5-11.

   If you have an AR130 router without phone ports, and you are not located in the USA or Canada, the **Inter-Office Connection page for ISDN Dial-on-Demand (Figure 5-9)** opens. Go to step 5 on page 5-12.

3. The **Phone Setup page (Figure 5-7)** only appears on the AR140 with phone ports. It allows you to enter the telephone numbers that people will use to call the telephones or facsimile machines you connect to these phone ports.

Figure 5-7: Phone Setup page

Phone Setup - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Phone Setup
Version 1.9.1 Serial No.42189072
Enter the telephone numbers allocated to you by your ISDN provider for the phone ports on your router. These are the telephone numbers that people will use to call you. If you only have one number, leave the other one blank.
Number for phone port 1: 234567
Number for phone port 2: 234568
If your ISDN service supports call waiting, and you want to use it, enable it here.
Enable call waiting for phone port 1
Enable call waiting for phone port 2
Select the ring mode for the phone ports:
A call to either number will ring both phones
A call to a number will ring only the phone connected to that port
Allied Telesyn
BACK
NEXT
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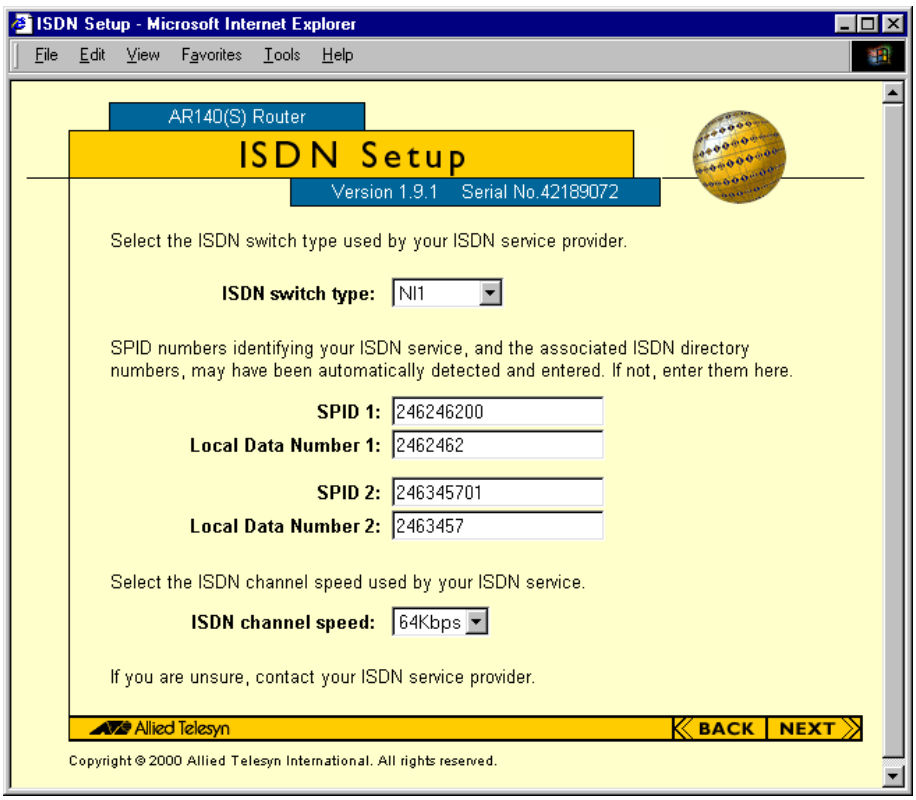
- Enter the local telephone numbers allocated to you by your ISDN provider. If you only have one number, leave the other blank.
- If you are in North America and your ISDN service supports Call Waiting, choose whether or not to enable it for each phone port.
- Select whether you want both phones to ring when either number is called, or only the phone on the port for the number called.
- Click **Next**.

If you are in North America, the **ISDN Setup page (Figure 5-8)** opens. Continue at step 4 on page 5-11.

In the rest of the world, the **Inter-Office Connection page for ISDN Dial-on-Demand (Figure 5-9)** opens. Go to step 5 on page 5-12.

4. The **ISDN Setup page (Figure 5-8)** appears only in North America to allow you to enter ISDN configuration information. The information required on this page is available from your ISDN service provider.

Figure 5-8: ISDN Setup page


ISDN Setup - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
ISDN Setup
Version 1.9.1 Serial No.42189072
Select the ISDN switch type used by your ISDN service provider.
ISDN switch type: NI1
SPID numbers identifying your ISDN service, and the associated ISDN directory numbers, may have been automatically detected and entered. If not, enter them here.
SPID 1: 246246200
Local Data Number 1: 2462462
SPID 2: 246345701
Local Data Number 2: 2463457
Select the ISDN channel speed used by your ISDN service.
ISDN channel speed: 64Kbps
If you are unsure, contact your ISDN service provider.
Allied Telesyn
BACK
NEXT
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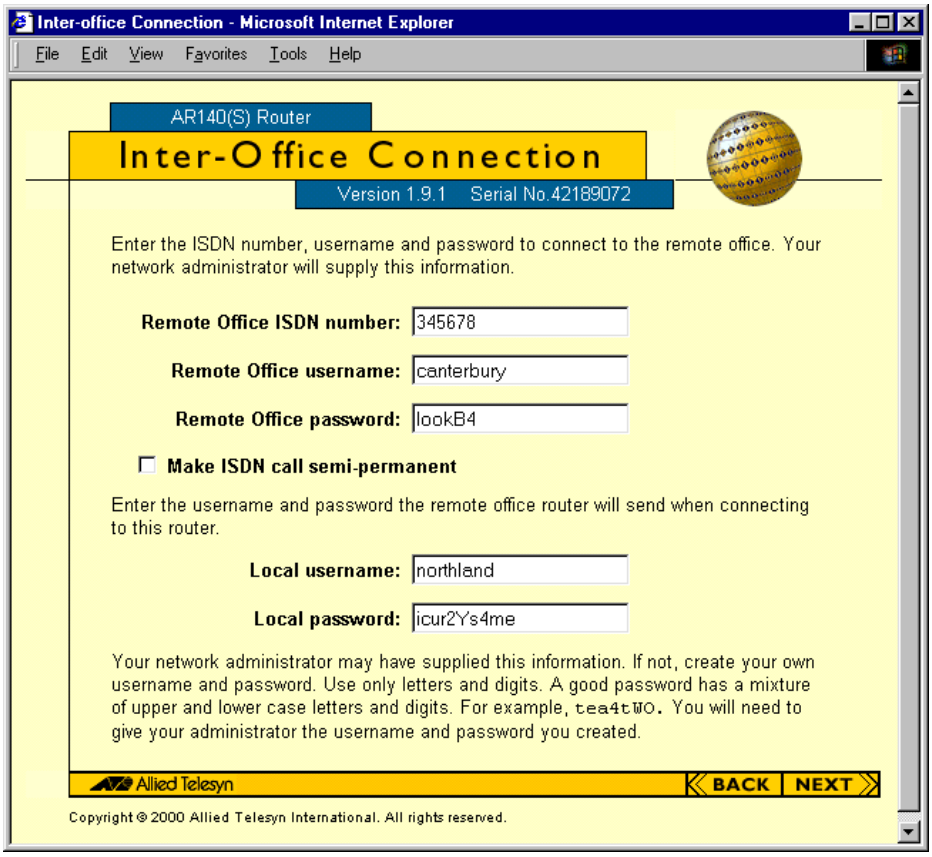
- Select the ISDN switch type to which you are connected.
- Enter SPID numbers and data directory numbers.
- Select your ISDN connection speed.
- Click Next.

5. The **Inter-Office Connection page for ISDN Dial-on-Demand (Figure 5-9)** allows you to enter the information the router needs to connect to the remote office. The network administrator at the remote office will supply you with this information.

Figure 5-9: Inter-Office Connection page for ISDN Dial-on-Demand


Inter-office Connection - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Inter-Office Connection
Version 1.9.1 Serial No.42189072
Enter the ISDN number, username and password to connect to the remote office. Your network administrator will supply this information.
Remote Office ISDN number: 345678
Remote Office username: canterbury
Remote Office password: lookB4
Make ISDN call semi-permanent
Enter the username and password the remote office router will send when connecting to this router.
Local username: northland
Local password: icur2Ys4me
Your network administrator may have supplied this information. If not, create your own username and password. Use only letters and digits. A good password has a mixture of upper and lower case letters and digits. For example, tea4tWO. You will need to give your administrator the username and password you created.
Allied Telesyn
BACK
NEXT
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- Enter the remote office ISDN number. This is the phone number the router will use to call the remote office.
- Enter the remote office username and password the router will use to connect to the remote office.
- Enter the local user name and password that the remote office will use to contact this office. Your network administrator may supply you with this information. If not, create your own username and password. Use only letters and digits. Give this information to your network administrator at the remote office, who needs to enter it into the remote office router's configuration. This local username and password is used when the remote office router contacts your office.
- The **Make ISDN call semi-permanent check box** appears in Australia only. In Australia, some ISDN service providers have charges appropriate to semi-permanent ISDN calls, for instance OnRamp Express. If you select **Make call semi-permanent** the call will be kept up and will be reconnected if a fault in the ISDN network disconnects it. Choose whether or not to the call to your remote office semi-permanent.

Note for Australia only: To make this call semi-permanent, you will need to do three things. Firstly, select **Make call semi-permanent** in this page. Secondly, set the Auto-disconnect time to **Off** after you have finished the Configuration Wizard (see the **Inter-Office Connection page (Figure 7-6)**). Thirdly, tell the network administrator at your remote office that you have set up a semi-permanent

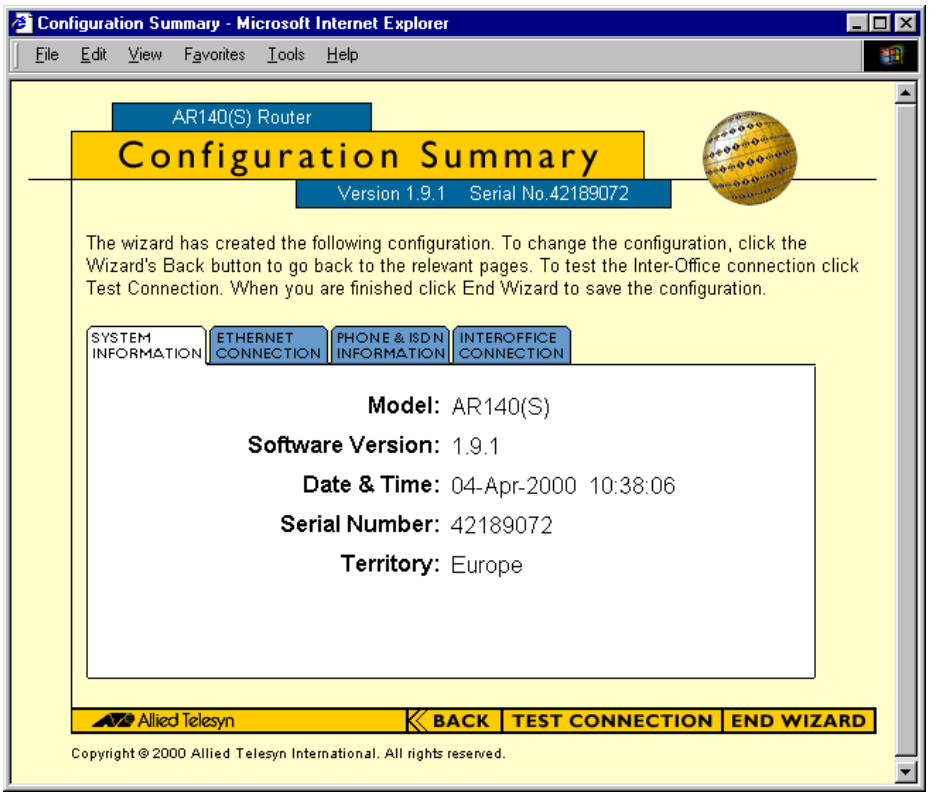
call with lower ISDN call charges, so that the router at the remote office can be configured only to accept incoming calls from your office, and not to send outgoing calls to your office, since the latter would be charged at a higher casual rate.

Caution for Australia only: If you subscribe to OnRamp Express, outgoing calls will be charged at a lower rate than the casual ISDN call charge. Calls from a subscriber that does not have OnRamp Express to a subscriber that does have OnRamp Express will be charged at the higher casual rate, even if the call is made semi-permanent. This could lead to high ISDN call charges. If unsure, check with your ISDN service provider.

- Click **Next**.

6. The **Configuration Summary page for an inter-office connection (Figure 5-10)** shows a summary of all the router configuration parameters you have entered, as well as standard parameters in the configuration.

Figure 5-10: Configuration Summary page for an inter-office connection


Configuration Summary - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Configuration Summary
Version 1.9.1 Serial No.42189072
The wizard has created the following configuration. To change the configuration, click the Wizard's Back button to go back to the relevant pages. To test the Inter-Office connection click Test Connection. When you are finished click End Wizard to save the configuration.
SYSTEM INFORMATION
ETHERNET CONNECTION
PHONE & ISDN INFORMATION
INTEROFFICE CONNECTION
Model: AR140(S)
Software Version: 1.9.1
Date & Time: 04-Apr-2000 10:38:06
Serial Number: 42189072
Territory: Europe
Allied Telesyn
BACK
TEST CONNECTION
END WIZARD
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The wizard creates a standard configuration using the parameters you have entered. You can change these and other parameters from the **Main Menu** page in the future if you wish.

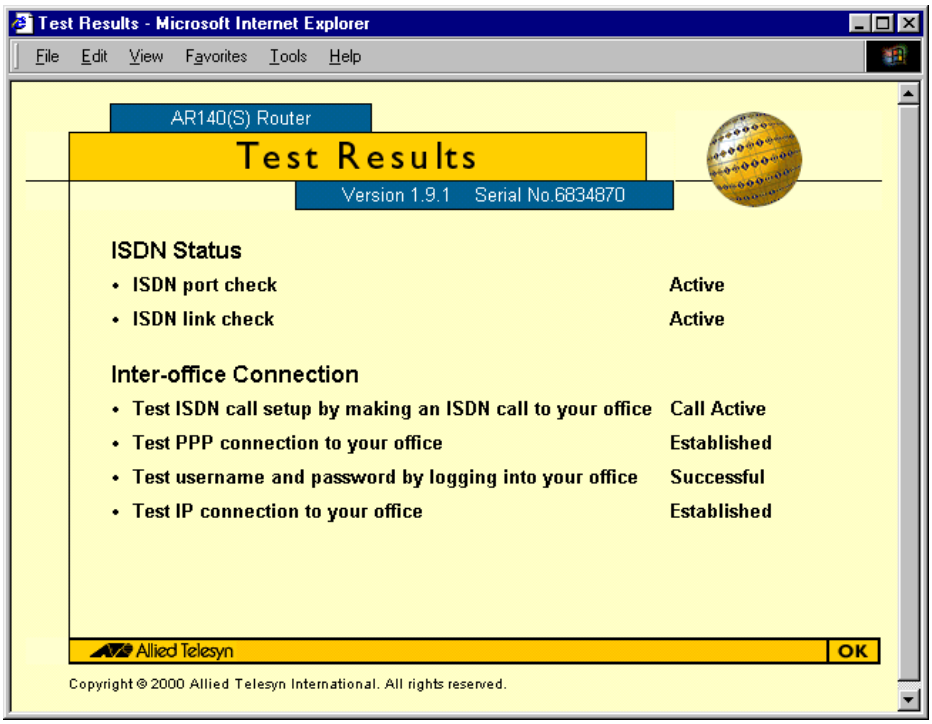
- If you wish to change any of the parameters you have entered, use the **Back** button at the bottom of the page to go back to the page you want to change.
- If you are satisfied with the configuration and want to test your Internet connection, click **Test Connection**. The **Test Results page (Figure 5-6)** opens to show you a summary of the connection test results.
- When you are satisfied with the configuration, click **End Wizard** to save the configuration. The **AR100 Main Menu page (Figure 4-2)** opens.

- Put a bookmark in your web browser at this page so that you can easily reach it in the future.

Note: You have gained access to the router to configure it by using the factory default password for the router's manager account. To limit unauthorised access to the router and its configuration, we recommend that you change this password as soon as you have configured the router for the first time. Go to "*Changing system information*" on page 7-2 of *Chapter 7, Changing Your Configuration*

7. The **Test Results** page shows a summary of which tests have been performed and the results. It takes a few seconds for all the tests to be run. It takes a few seconds for all the tests to be run.

Figure 5-11: Test Results page


Test Results - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Test Results
Version 1.9.1 Serial No.6834870
ISDN Status
• ISDN port check Active
• ISDN link check Active
Inter-office Connection
• Test ISDN call setup by making an ISDN call to your office Call Active
• Test PPP connection to your office Established
• Test username and password by logging into your office Successful
• Test IP connection to your office Established
Allied Telesyn
OK
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- If all the tests succeeded, click **OK** to return to the **Configuration Summary** page.
- If any tests failed, note the test results (for instance, by printing out the Test Results page) and see "*Connection test fails*" on page 10-13. Click **OK** to return to the **Configuration Summary** page.

Internet and inter-office dial-on-demand connections

1. Print out the following configuration checklist, and gather the information required.

Table 5-3: Checklist for Internet and Inter-office connections, ISDN Dial-on-Demand

Configuration parameter	Examples	Enter your data below
If you have an AR140 with phone ports, your ISDN provider may have supplied you with one or two ISDN numbers that external callers will use to ring the phone extensions. In North America your ISDN service may support call waiting. If so, decide whether to enable it on each phone port. Determine whether you want a call to one of the phones to ring both phones, or only that phone.		
Local ISDN number for Phone 1	35676767	
Call waiting on Phone 1 (North America only)	Enable call waiting	
Local ISDN number - Phone 2	356767	
Call waiting on Phone 2 (North America only)	Disable call waiting	
Each number rings one or both phones?	Ring only the phone on the port for the number called	
In North America, you will also need some ISDN setup information from your ISDN service provider. This includes the ISDN switch type to which you are connected, SPIDs and associated phone or directory numbers to identify your ISDN service, and your ISDN connection speed.		
ISDN switch type	NI1	
SPID 1	2462462-1	
Local data number 1	2462462	
SPID 2	2463457-2	
Local data number 2	2463457	
ISDN connection speed	56K, 64K	
The following information comes from your ISP service provider. The ISDN number is the phone number your router dials to connect to your ISP. Most ISPs allocate dynamic IP addresses. If your ISP has given you a fixed IP address, record it here. In Australia your ISDN service may offer a lower rate for a semi-permanent connection. For instance, if you subscribe to OnRamp Express, configure your router to make calls semi-permanent.		
ISDN number	3456789	
ISP Username	janes	
ISP Password	tea4tWo	
IP address or dynamic allocation	Dynamic	
Make ISDN call semi-permanent (Australia only)	OnRamp Express	

Configuration parameter	Examples	Enter your data below
You need the following information from your network administrator at the remote office. The router uses the remote office ISDN number, username and password to contact the remote office.The local username and password are used by the remote office router to connect to your router. If your network administrator does not supply these, create a local username and password using only letters and digits. Give these to the network administrator at the remote office. In Australia your ISDN service may offer a lower rate for a semi-permanent connection. For instance, if you subscribe to OnRamp Express, configure your router to make calls semi-permanent. If the office at the other end of your connection subscribes to OnRamp Express, do not make your calls semi-permanent, as they will be charged at the higher rate.		
Remote office ISDN number	345678	
Remote office username	canterbury	
Remote office password	lookB4	
Local office username	northland	
Local office password	icur2Ys4me	
Make ISDN call semi-permanent (Australia only)	No	
You need one or more IP address ranges and masks from your network administrator to determine which subnetworks your router can connect to at the remote office.		
IP network at remote office	192.182.35.0	
Mask	255.255.255.0	
IP network at remote office	192.182.36.0	
Mask	255.255.255.0	

- Choose **ISDN call to the Office; ISDN call to the Internet** on the **Welcome** page. Click **Next**.
- If you have an AR140 router with phone ports, the **Phone Setup page (Figure 5-12)** opens. Continue at step 2 on page 5-17.

If you have an AR130 router without phone ports and are in North America, the **ISDN Setup page (Figure 5-13)** opens. Go to step 3 on page 5-18.

If you have an AR130 router without phone ports, and you are not located in the USA or Canada, the **Internet Connection page for ISDN Dial-on-Demand (Figure 5-14)** opens. Go to step 4 on page 5-19.

2. The **Phone Setup page (Figure 5-12)** only appears on the AR140 with phone ports. It allows you to enter the telephone numbers that people will use to call the telephones or facsimile machines you connect to these phone ports.

Figure 5-12: Phone Setup page

Phone Setup - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Phone Setup
Version 1.9.1 Serial No.42189072
Enter the telephone numbers allocated to you by your ISDN provider for the phone ports on your router. These are the telephone numbers that people will use to call you. If you only have one number, leave the other one blank.
Number for phone port 1: 234567
Number for phone port 2: 234568
If your ISDN service supports call waiting, and you want to use it, enable it here.
Enable call waiting for phone port 1
Enable call waiting for phone port 2
Select the ring mode for the phone ports:
A call to either number will ring both phones
A call to a number will ring only the phone connected to that port
Allied Telesyn
BACK
NEXT
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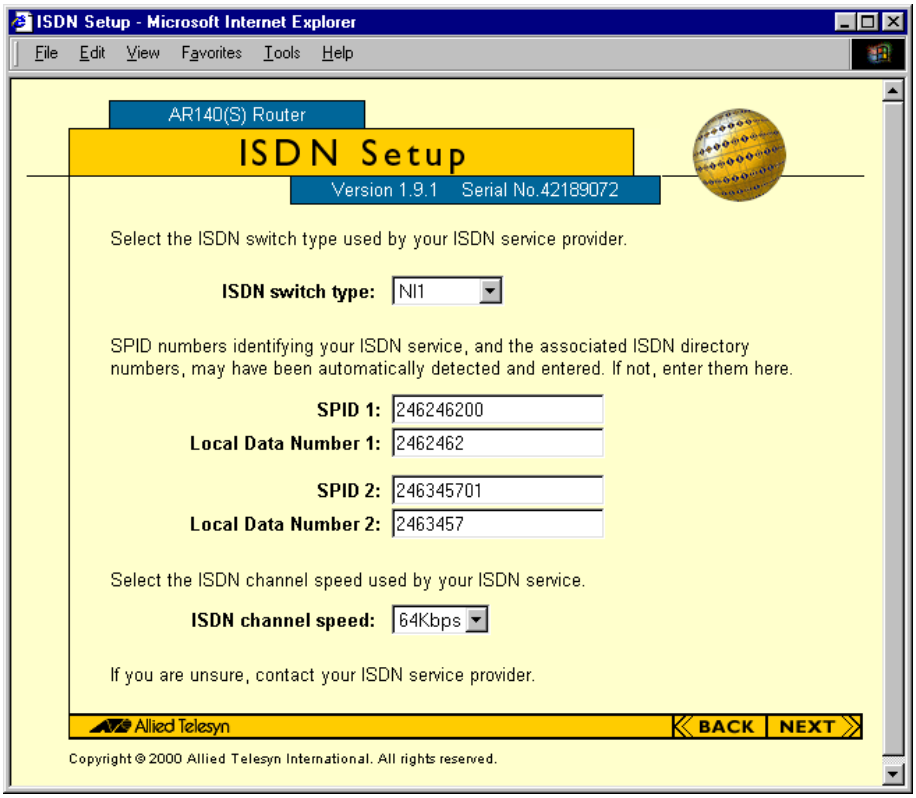
- Enter the local telephone numbers allocated to you by your ISDN provider. If you only have one number, leave the other blank.
- If you are in North America and your ISDN service supports Call Waiting, choose whether or not to enable it for each phone port.
- Select whether you want both phones to ring when either number is called, or only the phone on the port for the number called.
- Click **Next**.

If you are in North America the **ISDN Setup page (Figure 5-13)** opens. Continue at step 3 on page 5-18.

In the rest of the world the **Internet Connection page for ISDN Dial-on-Demand (Figure 5-14)** opens. Go to step 4 on page 5-19.

3. The **ISDN Setup page (Figure 5-13)** appears only in North America to allow you to enter ISDN configuration information. The ISDN switch type to which you are connected and the SPID information are available from your ISDN service provider.

Figure 5-13: ISDN Setup page


ISDN Setup - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
ISDN Setup
Version 1.9.1 Serial No.42189072
Select the ISDN switch type used by your ISDN service provider.
ISDN switch type: NI1
SPID numbers identifying your ISDN service, and the associated ISDN directory numbers, may have been automatically detected and entered. If not, enter them here.
SPID 1: 246246200
Local Data Number 1: 2462462
SPID 2: 246345701
Local Data Number 2: 2463457
Select the ISDN channel speed used by your ISDN service.
ISDN channel speed: 64Kbps
If you are unsure, contact your ISDN service provider.
Allied Telesyn
BACK NEXT
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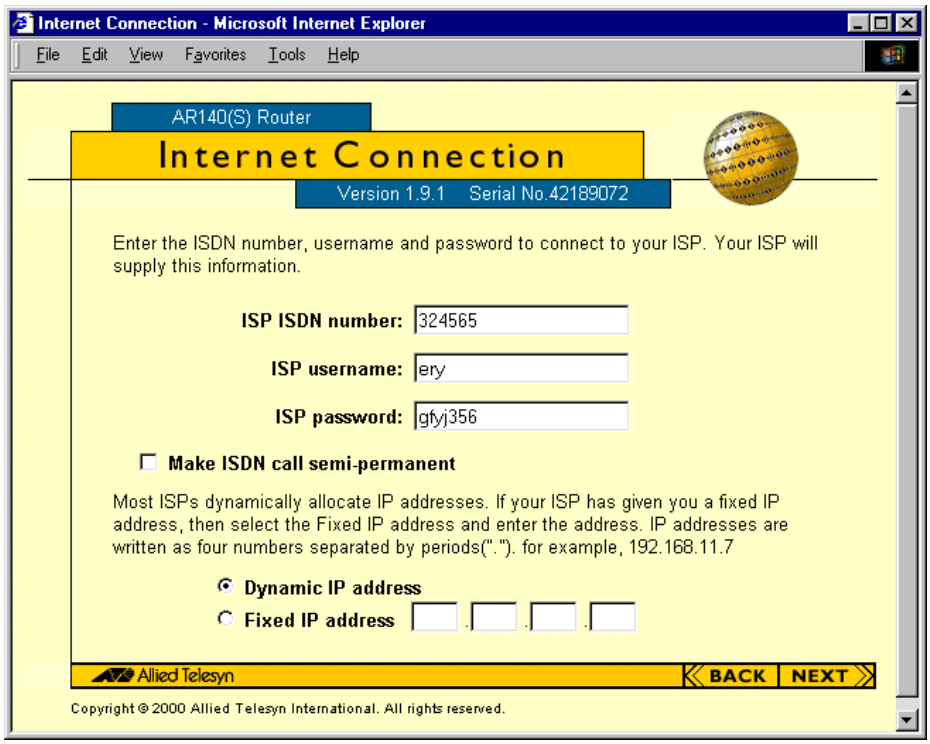
- Select the ISDN switch type to which you are connected.
- Enter SPID numbers and data directory numbers.
- Select your ISDN channel speed.
- Click **Next**.

4. The **Internet Connection page for ISDN Dial-on-Demand (Figure 5-14)** allows you to enter configuration information for your Internet connection. Your ISP will have given you account information that the router needs to connect to the Internet through your ISP.

Figure 5-14: Internet Connection page for ISDN Dial-on-Demand


Internet Connection - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Internet Connection
Version 1.9.1 Serial No.42189072
Enter the ISDN number, username and password to connect to your ISP. Your ISP will supply this information.
ISP ISDN number: 324565
ISP username: ery
ISP password: gfyj356
Make ISDN call semi-permanent
Most ISPs dynamically allocate IP addresses. If your ISP has given you a fixed IP address, then select the Fixed IP address and enter the address. IP addresses are written as four numbers separated by periods("."). for example, 192.168.11.7
Dynamic IP address
Fixed IP address
Allied Telesyn
BACK
NEXT
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- Enter your ISP's ISDN number. This is the phone number or directory number that your router dials to call your ISP.
- Enter the username and password your router will use to connect to the ISP.
- Choose dynamic or fixed IP address. Most ISPs dynamically allocate IP addresses, but some allocate fixed IP addresses. If your ISP has given you an IP address, select Fixed IP address and enter the IP address. Otherwise select Dynamic IP address.
- The **Make ISDN call semi-permanent** check box appears in Australia only. In Australia, some ISDN service providers have charges appropriate to semi-permanent ISDN calls, for instance OnRamp Express. If you select **Make call semi-permanent** the call will be kept up and will be reconnected if a fault in the ISDN network disconnects it. Choose whether or not to make ISDN calls to the Internet semi-permanent.

Note for Australia only: To make this call semi-permanent, you will also need to set the Auto-disconnect time to **Off**. After you have finished the Configuration Wizard, see the **Internet Connection page (Figure 7-5)**.

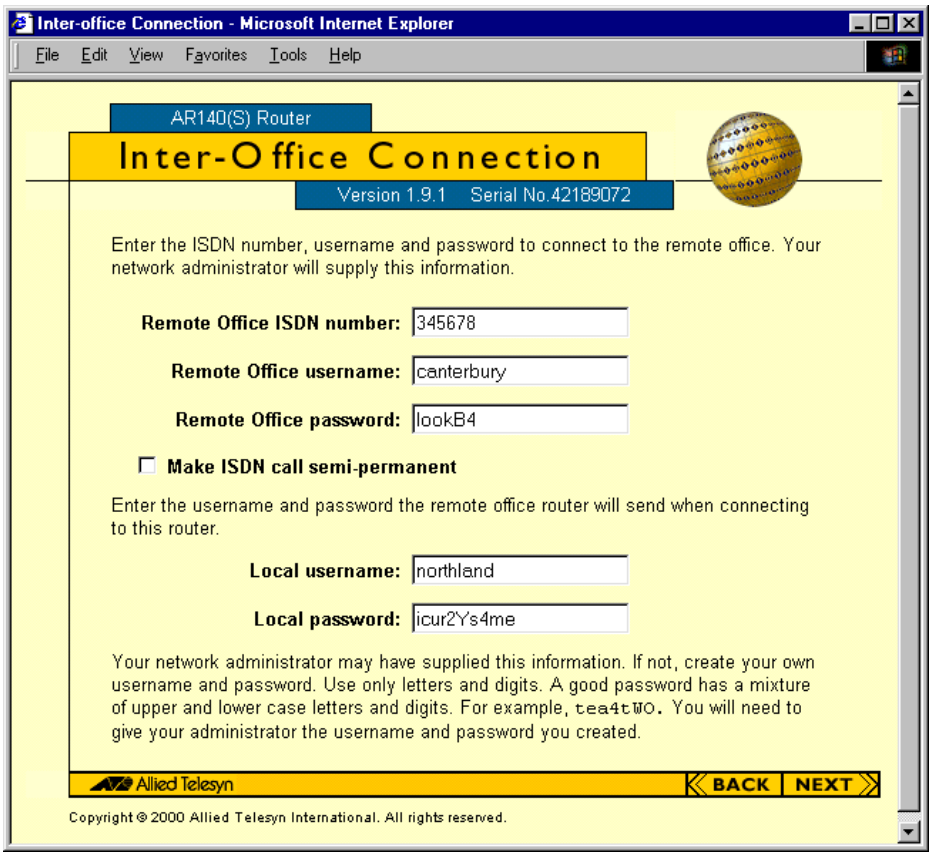
Caution for Australia only: If you subscribe to OnRamp Express, outgoing calls will be charged at a lower rate than the casual ISDN call charge. Calls from a subscriber that does not have OnRamp Express to a subscriber that does have OnRamp Express will be charged at the higher casual rate, even if

the call is made semi-permanent. This could lead to high ISDN call charges. If unsure, check with your ISDN service provider.

- Click **Next**.

5. The **Inter-Office Connection page for ISDN Dial-on-Demand (Figure 5-15)** allows you to enter the information the router needs to connect to the remote office. The network administrator at the remote office will supply you with this information.

Figure 5-15: Inter-Office Connection page for ISDN Dial-on-Demand


Inter-office Connection - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Inter-Office Connection
Version 1.9.1 Serial No.42189072
Enter the ISDN number, username and password to connect to the remote office. Your network administrator will supply this information.
Remote Office ISDN number: 345678
Remote Office username: canterbury
Remote Office password: lookB4
Make ISDN call semi-permanent
Enter the username and password the remote office router will send when connecting to this router.
Local username: northland
Local password: icur2Ys4me
Your network administrator may have supplied this information. If not, create your own username and password. Use only letters and digits. A good password has a mixture of upper and lower case letters and digits. For example, tea4tWO. You will need to give your administrator the username and password you created.
Allied Telesyn
BACK
NEXT
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- Enter the remote office ISDN number. This is the phone number the router will use to call the remote office.
- Enter the remote office username and password the router will use to connect to the remote office.
- Enter the local user name and password that the remote office will use to contact this office. Your network administrator may supply you with this information. If not, create your own username and password. Use only letters and digits. Give this information to your network administrator at the remote office, who needs to enter it into the remote office router's configuration. This local username and password is used when the remote office router contacts your office.
- The **Make ISDN call semi-permanent check box** appears in Australia only. In Australia, some ISDN service providers have charges appropriate to semi-permanent ISDN calls, for instance OnRamp Express. If you select **Make call semi-permanent** the call will be kept up and will be reconnected if a fault in the ISDN network disconnects it. Choose whether or not to the call to your remote office semi-permanent.

Note for Australia only: To make this call semi-permanent, you will need to do three things. Firstly, select **Make call semi-permanent** in this page. Secondly, set the Auto-disconnect time to **Off** after you have finished the Configuration Wizard (see the **Inter-Office Connection page (Figure 7-6)**). Thirdly, tell the network administrator at your remote office that you have set up a semi-permanent call with lower ISDN call charges, so that the router at the remote office can be configured only to accept incoming calls from your office, and not to send outgoing calls to your office, since the latter would be charged at a higher casual rate.

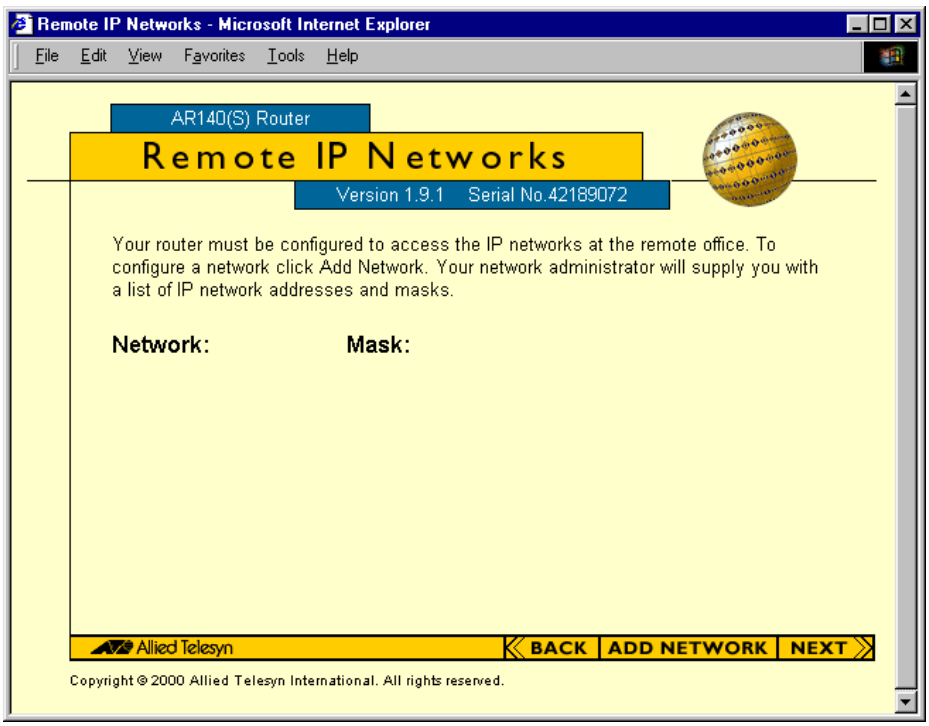
Caution for Australia only: If you subscribe to OnRamp Express, outgoing calls will be charged at a lower rate than the casual ISDN call charge. Calls from a subscriber that does not have OnRamp Express to a subscriber that does have OnRamp Express will be charged at the higher casual rate, even if the call is made semi-permanent. This could lead to high ISDN call charges. If unsure, check with your ISDN service provider.

Note: If you have an AR140 with voice ports, and want to use telephones or other devices connected to these, do not make calls to both the Internet and your remote office semi-permanent. If you do, there will be no channels available for phone calls.

- Click **Next**.

6. The **Remote IP Networks page (Figure 5-16)** shows which IP subnetworks this router has access to at the remote office. Data for destinations in the subnetworks listed here will be sent on the remote office connection. Data for destinations not specified here will be sent on the Internet connection. The first time you reach this page, there will be no subnetworks listed. Your network administrator at the remote office will supply you with a list of IP address ranges and masks.

Figure 5-16: Remote IP Networks page


Remote IP Networks - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Remote IP Networks
Version 1.9.1 Serial No.42189072
Your router must be configured to access the IP networks at the remote office. To configure a network click Add Network. Your network administrator will supply you with a list of IP network addresses and masks.
Network:
Mask:
Allied Telesyn
BACK
ADD NETWORK
NEXT
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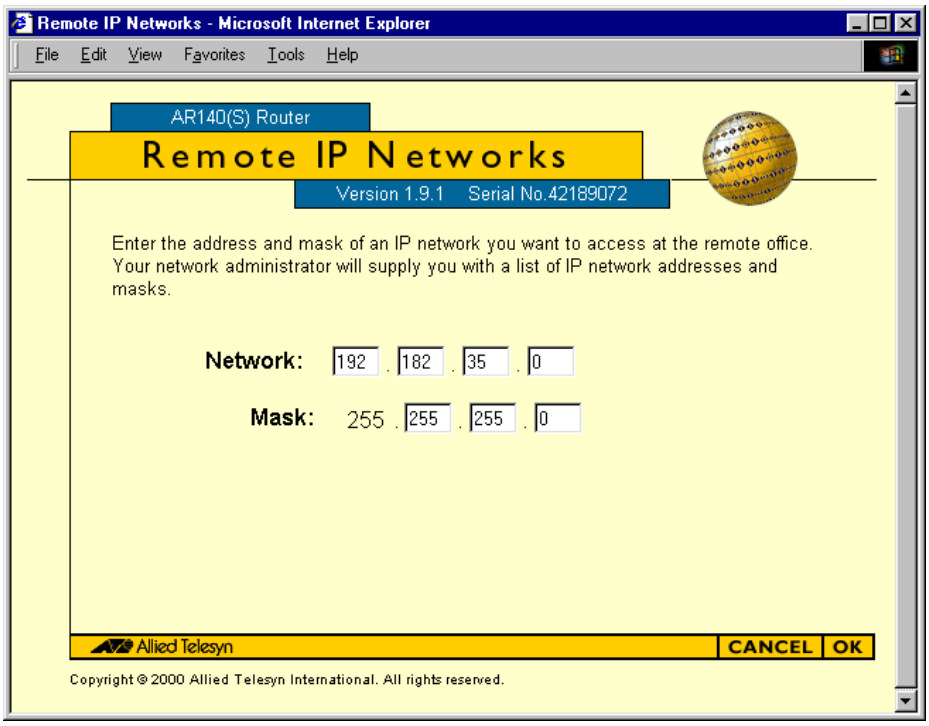
- To add an IP subnetwork, click **Add New Network**. The **New IP Network page (Figure 5-17)** opens.
- To remove an IP address range, click **Remove**.
- When the list is complete, click **Next**. The **Configuration Summary page for Internet and inter-office connections (Figure 5-18)** opens. Go to step 7 on page 5-24.

The **New IP Network page (Figure 5-17)** adds a new subnetwork to the list of subnetworks that the router has access to at the remote office. Return to this page to enter each new subnetwork.

Figure 5-17: New IP Network page


Remote IP Networks - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Remote IP Networks
Version 1.9.1 Serial No.42189072
Enter the address and mask of an IP network you want to access at the remote office. Your network administrator will supply you with a list of IP network addresses and masks.
Network: 192 . 182 . 35 . 0
Mask: 255 . 255 . 255 . 0
Allied Telesyn
CANCEL OK
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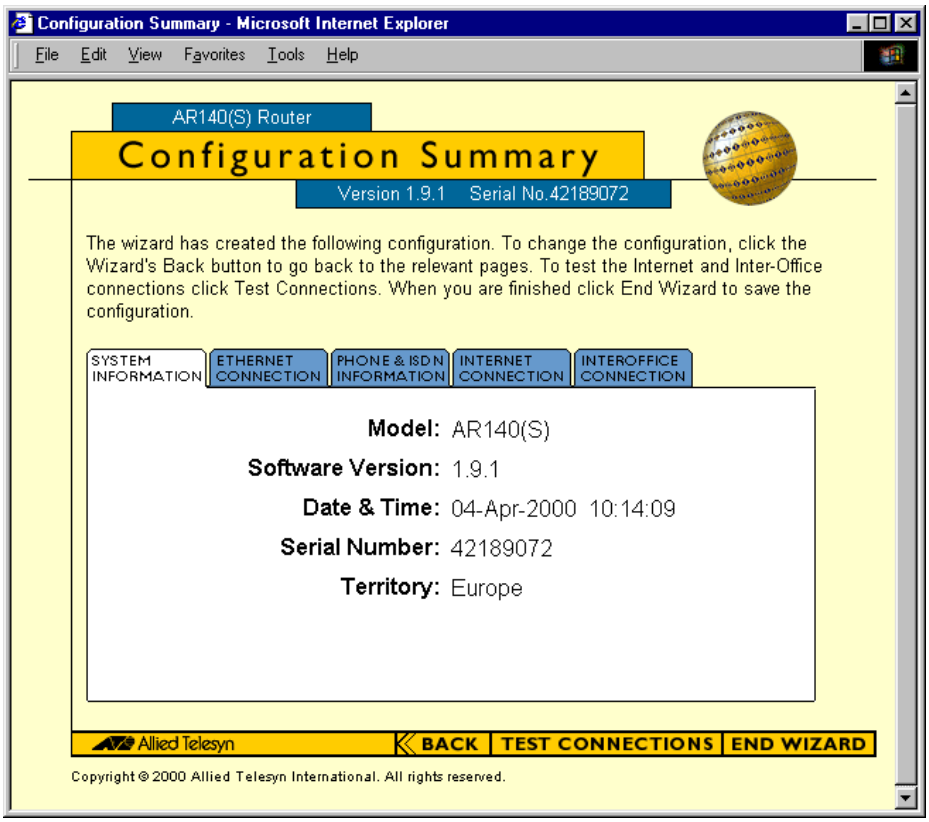
- Enter a subnetwork IP address range and mask. Click **OK** to return to the **Remote IP Networks page (Figure 5-16)**, which now shows the new IP address and mask.

7. The **Configuration Summary page for Internet and inter-office connections (Figure 5-18)** shows a summary of all the router configuration parameters you have entered, as well as standard parameters in the configuration. It takes a few seconds for all the tests to be run.

Figure 5-18: Configuration Summary page for Internet and inter-office connections


Configuration Summary - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Configuration Summary
Version 1.9.1 Serial No.42189072
The wizard has created the following configuration. To change the configuration, click the Wizard's Back button to go back to the relevant pages. To test the Internet and Inter-Office connections click Test Connections. When you are finished click End Wizard to save the configuration.
SYSTEM INFORMATION
ETHERNET CONNECTION
PHONE & ISDN INFORMATION
INTERNET CONNECTION
INTEROFFICE CONNECTION
Model: AR140(S)
Software Version: 1.9.1
Date & Time: 04-Apr-2000 10:14:09
Serial Number: 42189072
Territory: Europe
Allied Telesyn
BACK
TEST CONNECTIONS
END WIZARD
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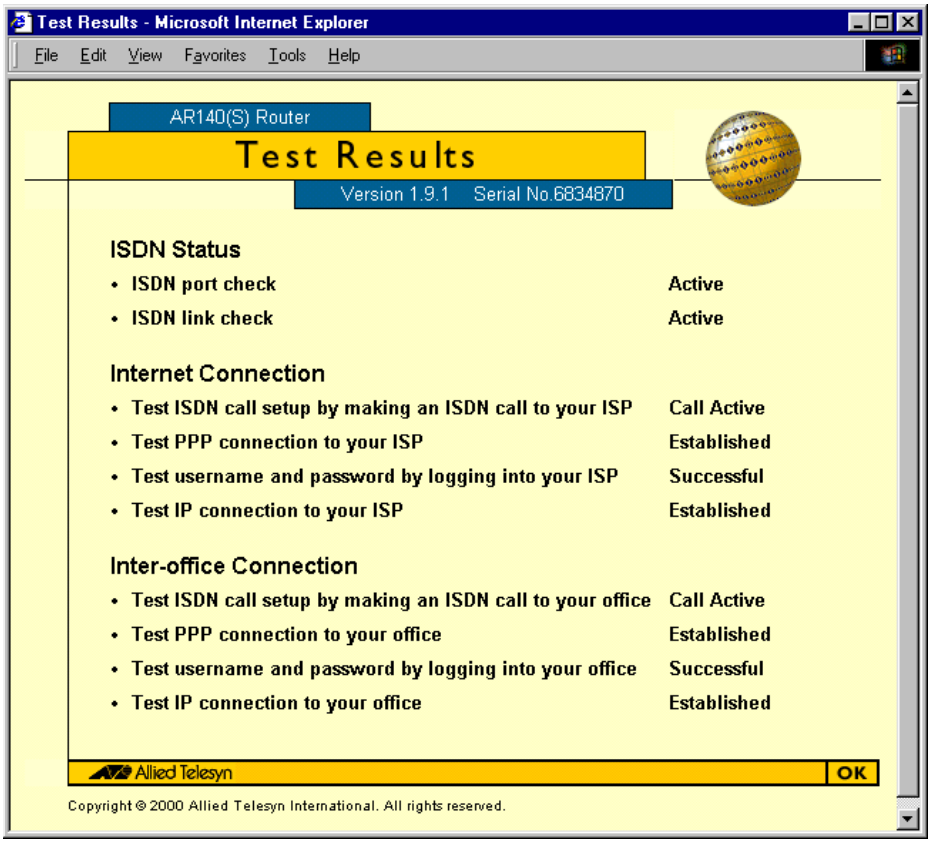
The wizard creates a standard configuration using the parameters you have entered. You can change these and other parameters from the Main Menu page in the future if you wish.

- If you wish to change any of the parameters you have entered, use the **Back** button at the bottom of the page to go back to the page you want to change.
- If you are satisfied with the configuration and want to test your Internet connection, click **Test Connection**. The **Test Results page (Figure 5-19)** opens to show you a summary of the connection test results. See step 8 on page 5-25.
- When you are satisfied with the configuration, click **End Wizard** to save the configuration. The **AR100 Main Menu page (Figure 4-2)** opens.
- Put a bookmark in your web browser at this page so that you can easily reach it in the future.

Note: You have gained access to the router to configure it by using the factory default password for the router's manager account. To limit unauthorised access to the router and its configuration, we recommend that you change this password as soon as you have configured the router for the first time. Go to "*Changing system information*" on page 7-2 of *Chapter 7, Changing Your Configuration*

8. The **Test Results** page shows a summary of which tests have been performed and the results. It takes a few seconds for all the tests to be run.

Figure 5-19: Test Results page


Test Results - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Test Results
Version 1.9.1 Serial No.6834870
ISDN Status
• ISDN port check Active
• ISDN link check Active
Internet Connection
• Test ISDN call setup by making an ISDN call to your ISP Call Active
• Test PPP connection to your ISP Established
• Test username and password by logging into your ISP Successful
• Test IP connection to your ISP Established
Inter-office Connection
• Test ISDN call setup by making an ISDN call to your office Call Active
• Test PPP connection to your office Established
• Test username and password by logging into your office Successful
• Test IP connection to your office Established
Allied Telesyn
OK
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- If all the tests succeeded, click **OK** to return to the **Configuration Summary page for Internet and inter-office connections (Figure 5-18)**.
- If any tests failed, note the test results (for instance, by printing out the **Test Results** page) and see *"Connection test fails"* on page 10-13. Click **OK** to return to the **Configuration Summary page for Internet and inter-office connections (Figure 5-18)**.

Chapter 6

Configuring for a Leased Line

This chapter describes how to configure your router for the first time if you have an ISDN leased line or a combination of leased and dial-on-demand ISDN lines. Leased lines are available in Germany and Austria only. To configure your router for dial on demand only connections in all other countries, see *Chapter 5, Configuring for the First Time*. For more general information about using the web based AR100 Configuration Wizard, see *Chapter 4, About Web Access to the AR100*. Gather all the information in the configuration checklist included in the section for your kind of connection before you run this wizard.

When you log into a router that has not yet been configured, the **Welcome page for the AR100 Configuration Wizard (Figure 6-1)** opens.

Figure 6-1: Welcome page for the AR100 Configuration Wizard

Welcome Page - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Welcome to your
Allied Telesyn AR140 Router
Version 1.9.1 Serial No.42189072
This Configuration Wizard will guide you through the process of configuring your router for the first time. Have ready any connection information supplied by your service provider(s). Use the buttons on these web pages, NOT the browser's Back button, to move through these pages. Select the type of connection(s) you want.
ISDN call to the Internet
ISDN call to the Office
ISDN call to the Office
ISDN call to the Internet
AR140
ISDN
Show me leased line connection options
Allied Telesyn
NEXT
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This is the beginning of a series of pages that ask you for specific information about your connections. The wizard creates a standard configuration that will suit many users. If you want to change this initial configuration, add a new connection, or remove a connection, you can do this later, as described in *Chapter 7, Changing Your Configuration*.

While using the wizard, if you want to go back to a previous page, use the **Back** button on the pages, not the browser's Back button, so that your configuration will be correctly stored. If you need to restart the wizard, re-insert the AR100 CD into the PC's CD-ROM drive, and click **Configure Router** again.

Note: If you use leased lines on both ISDN B channels, for instance one to your ISP and one to your remote office, you will not be able connect telephones and use telephony services, even if you have an AR140 with phone ports.

Go to the section that describes the kind of connection(s) you want, and follow the instructions to configure your router.

- "*Internet leased line connection*" on page 6-3
- "*Inter-office leased line connection*" on page 6-10
- "*Internet and inter-office leased line connections*" on page 6-17
- "*Internet dial-on-demand & inter-office leased line connections*" on page 6-26
- "*Internet leased line & inter-office dial-on-demand connections*" on page 6-36
- Dial-on-demand only - *Chapter 5, Configuring for the First Time*

Internet leased line connection

1. Print out the following configuration checklist, and gather the information required.

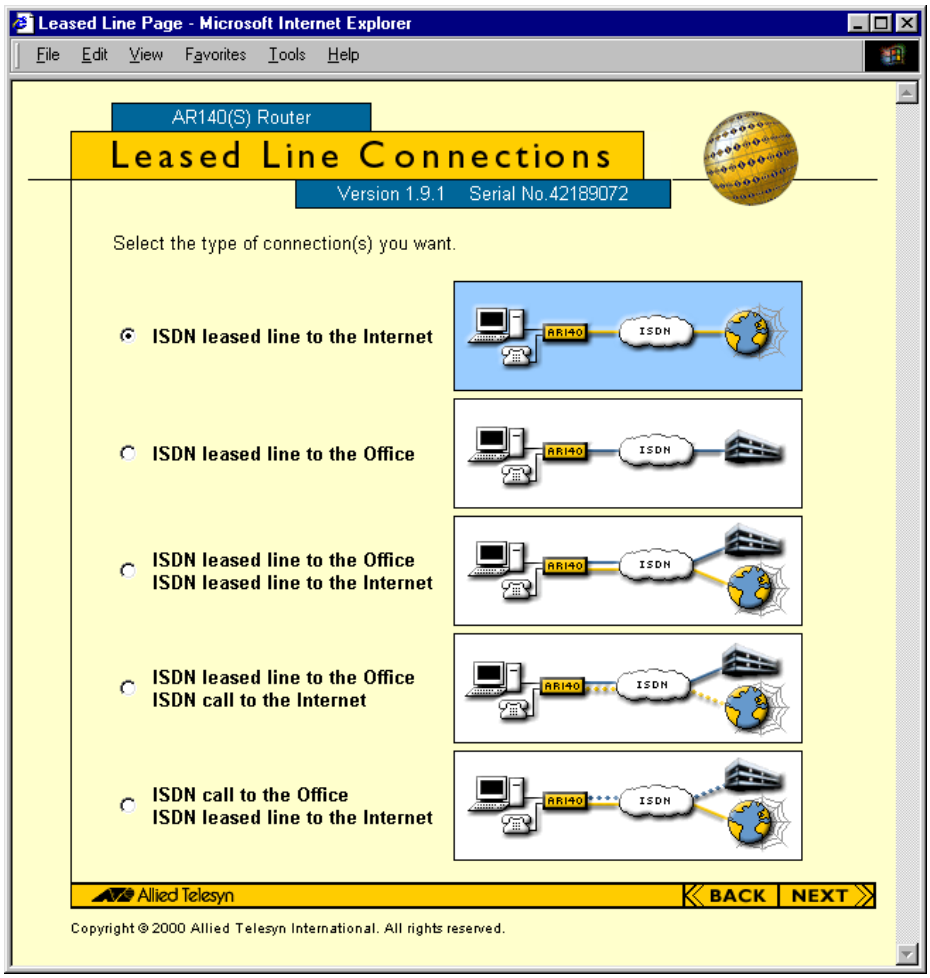
Table 6-1: Check list for Internet connection, ISDN Leased Line

Configuration Parameter	Examples	Enter your data below
Your ISDN provider connects you to your ISP with a leased line on one or two B channels, B1 and B2. Your ISDN provider will supply this information.		
B channels used for leased line to ISP	Leased line to ISP on B1 & B2	
If you have an AR140 with phone ports, your ISDN provider may have supplied you with one or two ISDN numbers that external callers will use to ring the phone extensions. Determine whether you want a call to one of the phones to ring both phones, or only that phone.		
Local ISDN number for Phone 1	35676767	
Local ISDN number for Phone 2	356767	
Each number rings one or both phones?	Ring only the phone on the port for the number called	
You need the IP address of your Internet Service Provider (ISP).		
IP address	123.23.4.1	

2. On the **Welcome page for the AR100 Configuration Wizard (Figure 6-1)**, click the **Show me ISDN leased line connection options** link.

3. The **Leased Line Connections** page appears in Germany and Austria only. It allows you to select leased line ISDN connections or combinations of leased line and dial-on-demand ISDN connections.

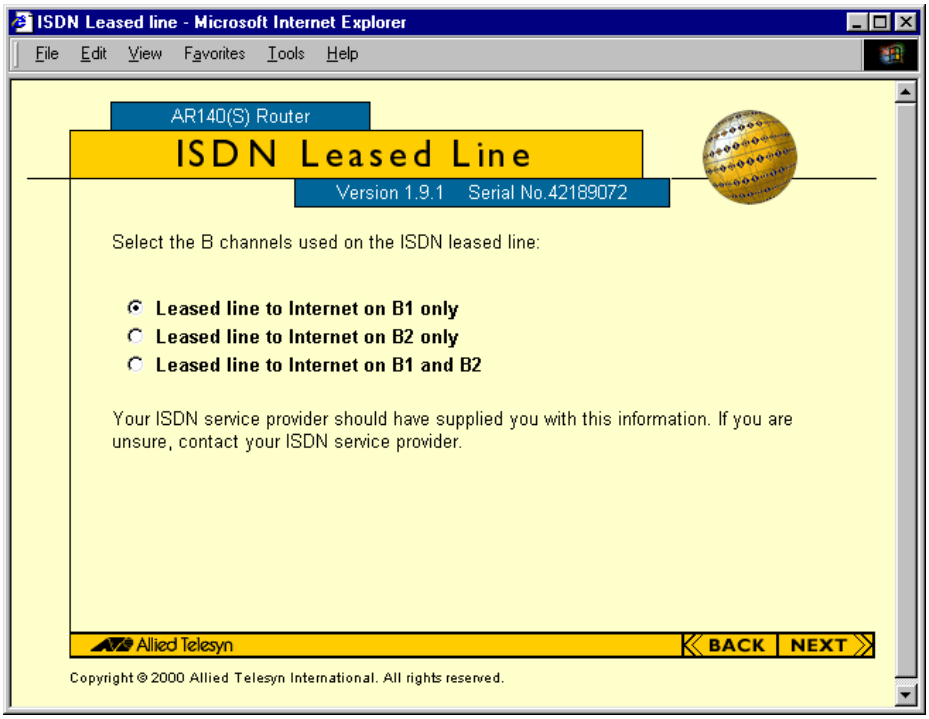
Figure 6-2: Leased Line Connections page


Leased Line Page - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Leased Line Connections
Version 1.9.1 Serial No.42189072
Select the type of connection(s) you want.
ISDN leased line to the Internet
ISDN leased line to the Office
ISDN leased line to the Office
ISDN leased line to the Internet
ISDN leased line to the Office
ISDN call to the Internet
ISDN call to the Office
ISDN leased line to the Internet
AR140
ISDN
Allied Telesyn
BACK
NEXT
Copyright © 2000 Allied Telesyn International. All rights reserved.

- Choose **ISDN leased line to the Internet**. Click **Next**. The **ISDN Leased Line page (Figure 6-3)** opens.

4. Your ISDN connection has two channels, B1 and B2, that can be used for one or two connections, and a D channel used for signalling. The **ISDN Leased Line page (Figure 6-3)** allows you to choose the B channels the router will use to connect to your ISP. If you are unsure, contact your ISDN service provider.

Figure 6-3: ISDN Leased Line page


ISDN Leased line - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
ISDN Leased Line
Version 1.9.1 Serial No.42189072
Select the B channels used on the ISDN leased line:
Leased line to Internet on B1 only
Leased line to Internet on B2 only
Leased line to Internet on B1 and B2
Your ISDN service provider should have supplied you with this information. If you are unsure, contact your ISDN service provider.
Allied Telesyn
BACK
NEXT
Copyright © 2000 Allied Telesyn International. All rights reserved.

- Select the B channel(s) for your ISDN leased line connection. Click **Next**.

If you have an AR140 router with phone ports, the **Phone Setup page (Figure 6-4)** opens. Continue at step 5 on page 6-6.

If you have an AR130 router without phone ports, the **Internet Connection page for ISDN Leased Line (Figure 6-5)** opens. Go to step 6 on page 6-7.

5. The **Phone Setup page (Figure 6-4)** only appears on the AR140 with phone ports. It allows you to enter the telephone numbers that people will use to call the telephones or facsimile machines you connect to these phone ports.

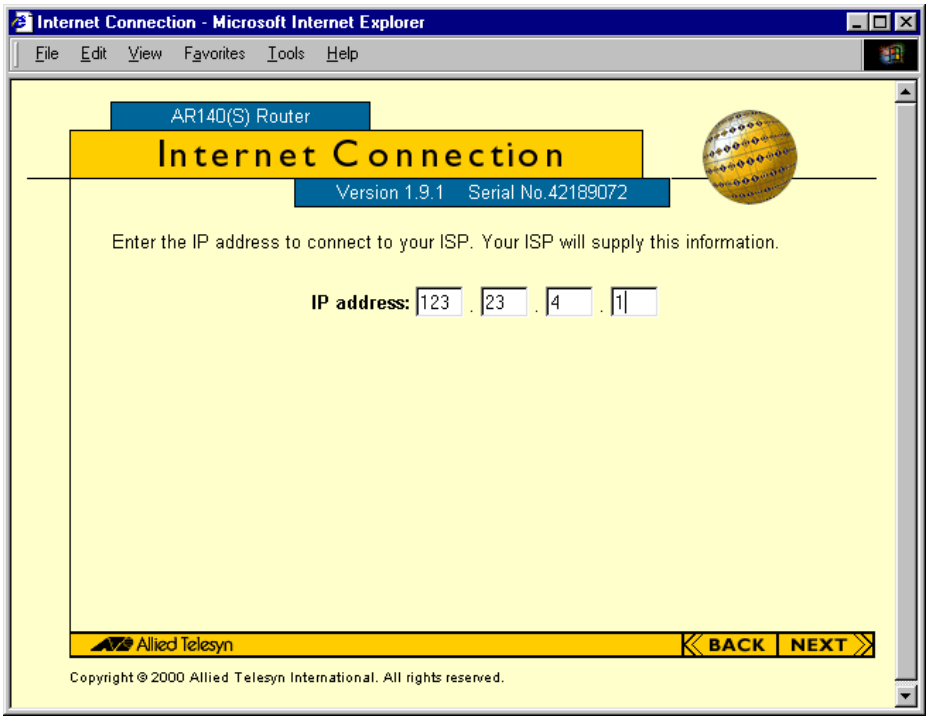
Figure 6-4: Phone Setup page

Phone Setup - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Phone Setup
Version 1.9.1 Serial No.42189072
Enter the telephone numbers allocated to you by your ISDN provider for the phone ports on your router. These are the telephone numbers that people will use to call you. If you only have one number, leave the other one blank.
Number for phone port 1: 2345467
Number for phone port 2: 234568
Select the ring mode for the phone ports:
A call to either number will ring both phones
A call to a number will ring only the phone connected to that port
Allied Telesyn
BACK
NEXT
Copyright © 2000 Allied Telesyn International. All rights reserved.

- Enter the local telephone numbers allocated to you by your ISDN provider. If you only have one number, leave the other blank.
- Select whether you want both phones to ring when either number is called, or only the phone on the port for the number called. Click **Next**.

6. The **Internet Connection page for ISDN Leased Line (Figure 6-5)** allows you to enter the IP address that the router will use to connect to your Internet Service Provider (ISP). Your ISP will have given you this information.

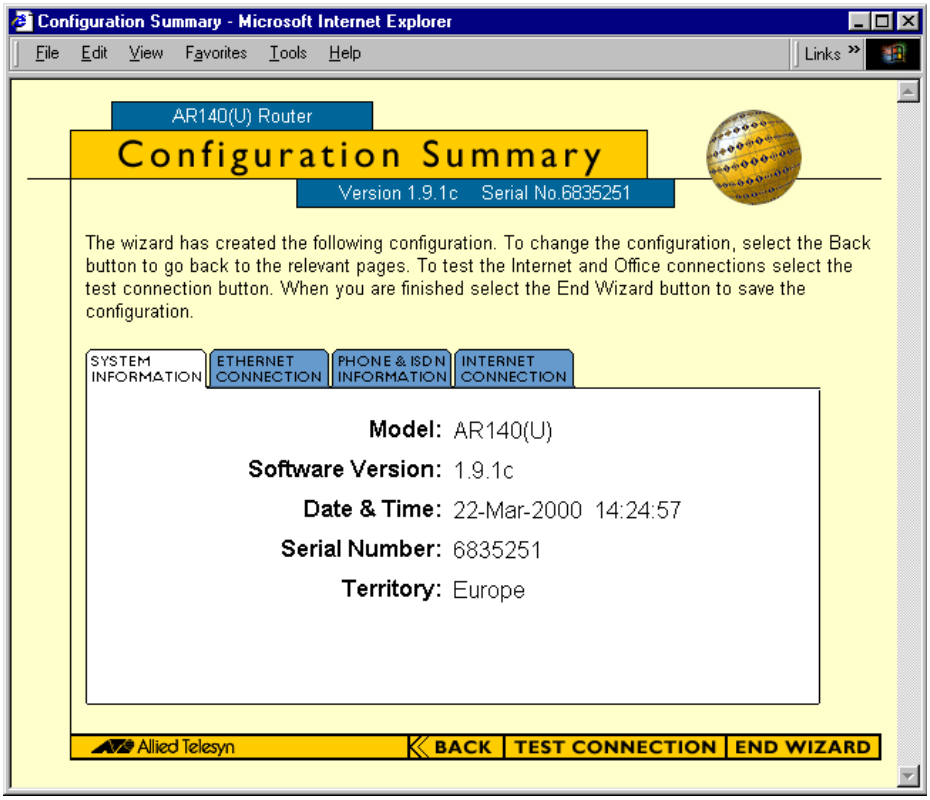
Figure 6-5: Internet Connection page for ISDN Leased Line


Internet Connection - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Internet Connection
Version 1.9.1 Serial No.42189072
Enter the IP address to connect to your ISP. Your ISP will supply this information.
IP address: 123 . 23 . 4 . 1
Allied Telesyn
BACK
NEXT
Copyright © 2000 Allied Telesyn International. All rights reserved.

- Enter the IP address for your ISP, and click **Next**.

7. The **Configuration Summary page for Internet connection Leased Line (Figure 6-6)** shows a summary of all the router configuration parameters you have entered, as well as standard parameters in the configuration.

Figure 6-6: Configuration Summary page for Internet connection Leased Line


Configuration Summary - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Links
AR140(U) Router
Configuration Summary
Version 1.9.1c Serial No.6835251
The wizard has created the following configuration. To change the configuration, select the Back button to go back to the relevant pages. To test the Internet and Office connections select the test connection button. When you are finished select the End Wizard button to save the configuration.
SYSTEM INFORMATION
ETHERNET CONNECTION
PHONE & ISDN INFORMATION
INTERNET CONNECTION
Model: AR140(U)
Software Version: 1.9.1c
Date & Time: 22-Mar-2000 14:24:57
Serial Number: 6835251
Territory: Europe
Allied Telesyn
BACK
TEST CONNECTION
END WIZARD

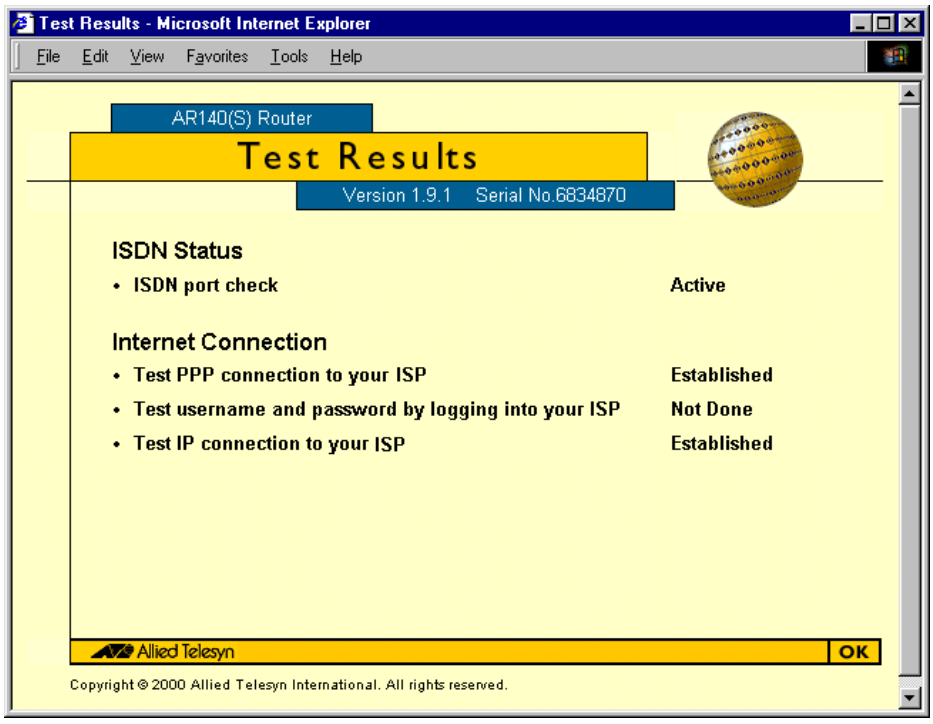
The wizard creates a standard configuration using the parameters you have entered. You can change these and other parameters from the Main Menu page in the future if you wish.

- If you wish to change any of the parameters you have entered, use the **Back** button at the bottom of the page to go back to the page you want to change.
- If you are satisfied with the configuration and want to test your Internet connection, click **Test Connection**. The **Test Results page (Figure 6-7)** opens to show you a summary of the connection test results.
- When you are satisfied with the configuration, click **End Wizard** to save the configuration. The **AR100 Main Menu page (Figure 4-2)** opens.
- Put a bookmark in your web browser at this page so that you can easily reach it in the future.

Note: You have gained access to the router to configure it by using the factory default password for the router's manager account. To limit unauthorised access to the router and its configuration, we recommend that you change this password as soon as you have configured the router for the first time. Go to"*Changing system information*" on page 7-2.

8. The **Test Results page (Figure 6-7)** shows a summary of which tests have been performed and the results. It takes a few seconds to run the tests.

Figure 6-7: Test Results page



- If all the tests succeeded, click **OK** to return to the **Configuration Summary page for Internet connection Leased Line (Figure 6-6)**.
- If any tests failed, note the test results (for instance, by printing out the **Test Results** page) and see "*Connection test fails*" on page 10-13. Click **OK** to return to the **Configuration Summary page for Internet connection Leased Line (Figure 6-6)**.

Inter-office leased line connection

1. Print out the following configuration checklist and gather the information required.

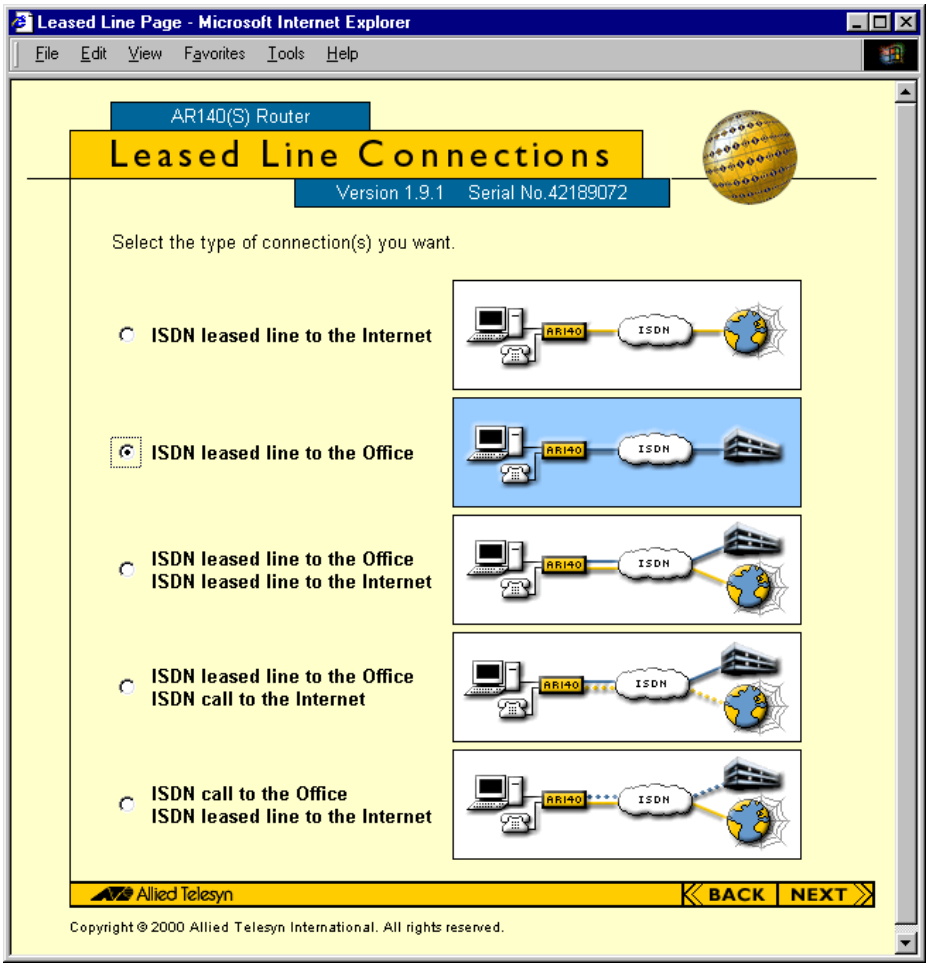
Table 6-2: Checklist for Inter-office connection, ISDN Leased Line.

Configuration parameter	Examples	Enter your data below
Your ISDN provider connects you to your remote office with a leased line on one or two B channels, B1 and B2. Your ISDN provider will supply this information.		
B channels used for leased line to remote office	Leased line to remote office on B2	
If you have an AR140 with phone ports, your ISDN provider may have supplied you with one or two ISDN numbers that external callers will use to ring the phone extensions. Determine whether you want a call to one of the phones to ring both phones, or only that phone.		
Local ISDN number for Phone 1	35676767	
Local ISDN number for Phone 2	356767	
Each number rings one or both phones?	RIng only the phone on the port for the number called	
You need the following information from your network administrator at the remote office. The router uses the remote office username and password to contact the remote office.The local username and password are used by the remote office router to connect to your router. If your network administrator does not supply these, create your own local username and password using only letters and digits. Remember to give these to your network administrator at the remote office.		
Remote office username	canterbury	
Remote office password	lookB4	
Local office username	northland	
Local office password	icur2Ys4me	

2. On the **Welcome page for the AR100 Configuration Wizard (Figure 6-1)**, click on the **Show me ISDN Leased Line connection options** link.

3. The **Leased Line Connections** page appears in Germany and Austria only. It allows you to select leased line ISDN connections or combinations of leased line and dial-on-demand ISDN connections.

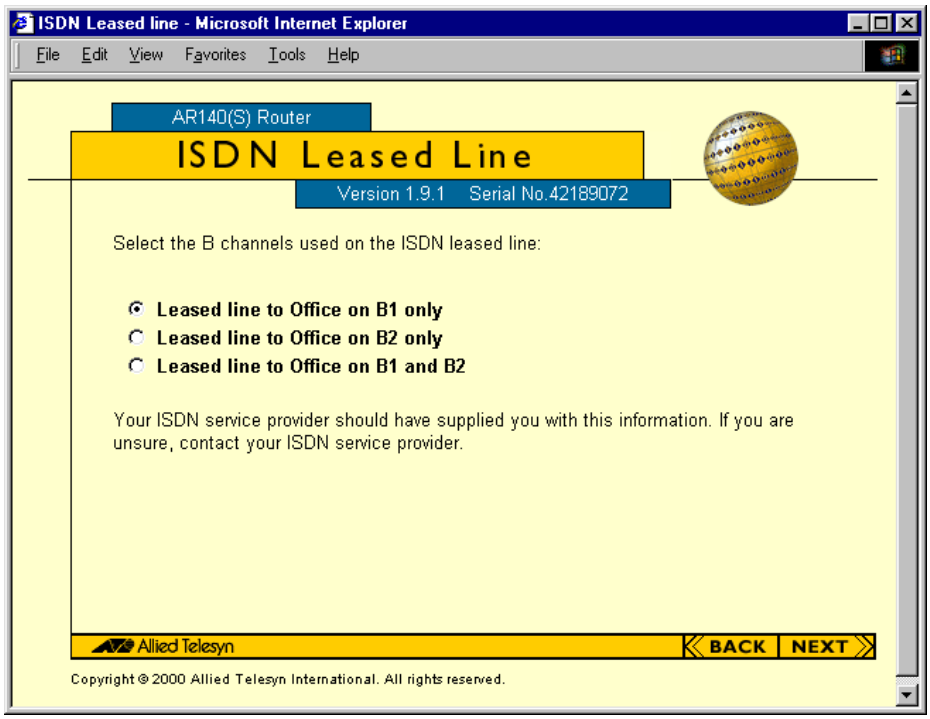
Figure 6-8: Leased Line Connections page


Leased Line Page - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Leased Line Connections
Version 1.9.1 Serial No.42189072
Select the type of connection(s) you want.
ISDN leased line to the Internet
ISDN leased line to the Office
ISDN leased line to the Office
ISDN leased line to the Internet
ISDN leased line to the Office
ISDN call to the Internet
ISDN call to the Office
ISDN leased line to the Internet
AR140
ISDN
Allied Telesyn
BACK
NEXT
Copyright © 2000 Allied Telesyn International. All rights reserved.

- Choose **ISDN leased line to the Office**. Click **Next. The ISDN Leased Line page (Figure 6-9)** opens.

4. Your ISDN connection has two channels, B1 and B2, that can be used for one or two connections, and a D channel used for signalling. The **ISDN Leased Line page (Figure 6-9)** allows you to choose the B channels the router will use to connect to your remote office. If you are unsure, contact your ISDN service provider.

Figure 6-9: ISDN Leased Line page


ISDN Leased line - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
ISDN Leased Line
Version 1.9.1 Serial No.42189072
Select the B channels used on the ISDN leased line:
Leased line to Office on B1 only
Leased line to Office on B2 only
Leased line to Office on B1 and B2
Your ISDN service provider should have supplied you with this information. If you are unsure, contact your ISDN service provider.
Allied Telesyn
BACK
NEXT
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- Select the B channel(s) for your ISDN leased line connection. Click **Next**.

If you have an AR140 router with phone ports, the **Phone Setup page (Figure 6-10)** opens. Continue at step 5 on page 6-13.

If you have an AR130 router without phone ports, the **Inter-Office Connection page for ISDN Leased Line (Figure 6-11)** opens. Go to step 6 on page 6-14

5. The **Phone Setup page (Figure 6-10)** only appears on the AR140 with phone ports. It allows you to enter the telephone numbers that people will use to call the telephones or facsimile machines you connect to these phone ports.

Figure 6-10: Phone Setup page

Phone Setup - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Phone Setup
Version 1.9.1 Serial No.42189072
Enter the telephone numbers allocated to you by your ISDN provider for the phone ports on your router. These are the telephone numbers that people will use to call you. If you only have one number, leave the other one blank.
Number for phone port 1: 2345467
Number for phone port 2: 234568
Select the ring mode for the phone ports:
A call to either number will ring both phones
A call to a number will ring only the phone connected to that port
Allied Telesyn
BACK
NEXT
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- Enter the local telephone numbers allocated to you by your ISDN provider. If you only have one number, leave the other blank.
- Select whether you want both phones to ring when either number is called, or only the phone on the port for the number called. Click **Next**.

6. The **Inter-Office Connection page for ISDN Leased Line (Figure 6-11)** allows you to enter the configuration the router needs to connect to the remote office. The network administrator at the remote office will supply you with this information.

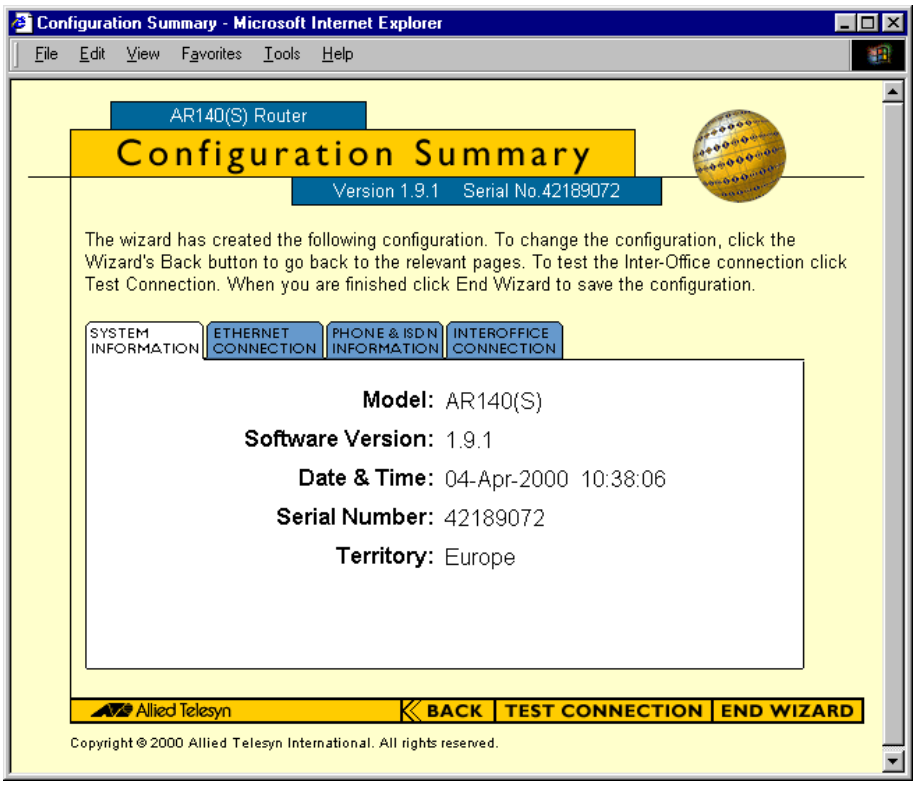
Figure 6-11: Inter-Office Connection page for ISDN Leased Line

Inter-office Connection - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Inter-Office Connection
Version 1.9.1 Serial No.42189072
Enter the ISDN number, username and password to connect to the remote office. Your network administrator will supply this information.
Remote Office username: canterbury
Remote Office password: lookB4
Enter the username and password the remote office router will send when connecting to this router.
Local username: northland
Local password: icur2Ys4me
Your network administrator may have supplied this information. If not, create your own username and password. Use only letters and digits. A good password has a mixture of upper and lower case letters and digits. For example, tea4tWO. You will need to give your administrator the username and password you created.
Allied Telesyn
BACK
NEXT
Copyright © 2000 Allied Telesyn International. All rights reserved.

- Enter the remote office username and password the router will use to connect to the remote office.
- Enter the local user name and password that the remote office will use to contact this office. Your network administrator may supply you with this information. If not, create your own username and password. Use only letters and digits. Give this information to your network administrator at the remote office, who needs to enter it into the remote office router's configuration. This local username and password is used when the remote office router contacts your office.
- Click **Next**.

7. The **Configuration Summary for Inter-office Leased Line connection (Figure 6-12)** shows a summary of all the router configuration parameters you have entered, as well as standard parameters in the configuration.

Figure 6-12: Configuration Summary for Inter-office Leased Line connection


Configuration Summary - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Configuration Summary
Version 1.9.1 Serial No.42189072
The wizard has created the following configuration. To change the configuration, click the Wizard's Back button to go back to the relevant pages. To test the Inter-Office connection click Test Connection. When you are finished click End Wizard to save the configuration.
SYSTEM INFORMATION
ETHERNET CONNECTION
PHONE & ISDN INFORMATION
INTEROFFICE CONNECTION
Model: AR140(S)
Software Version: 1.9.1
Date & Time: 04-Apr-2000 10:38:06
Serial Number: 42189072
Territory: Europe
Allied Telesyn
BACK
TEST CONNECTION
END WIZARD
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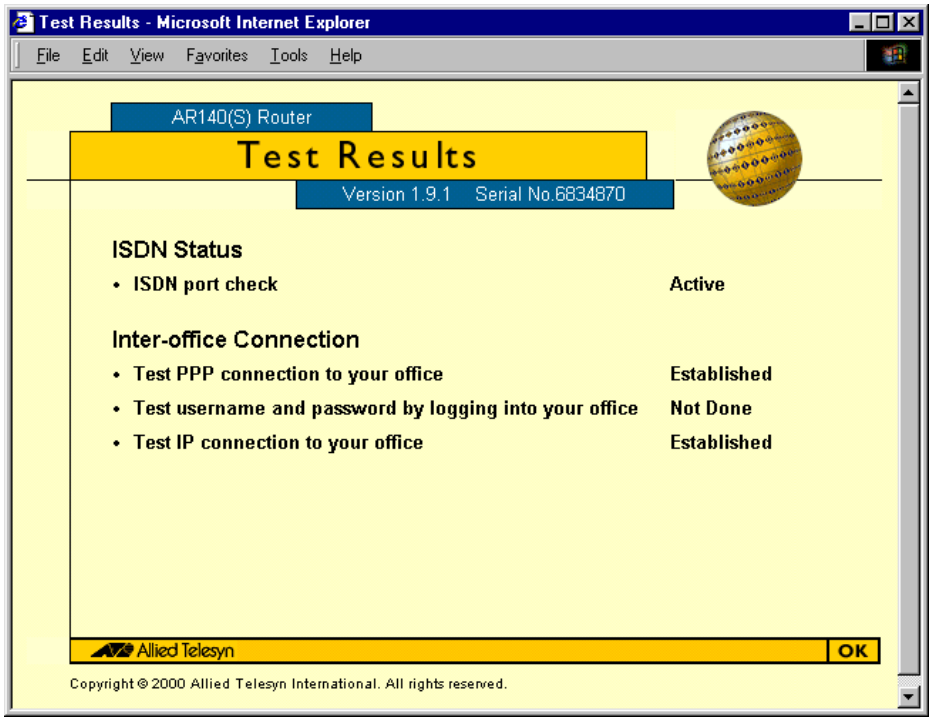
The wizard creates a standard configuration using the parameters you have entered. You can change these and other parameters from the **Main Menu** page in the future if you wish.

- If you wish to change any of the parameters you have entered, use the **Back** button at the bottom of the page to go back to the page you want to change.
- If you are satisfied with the configuration and want to test your Internet connection, click **Test Connection**. The **Test Results page (Figure 6-13)** opens to show you a summary of the connection test results.
- When you are satisfied with the configuration, click **End Wizard** to save the configuration. The **AR100 Main Menu page (Figure 4-2)** opens.
- Put a bookmark in your web browser at this page so that you can easily reach it in the future.

Note: You have gained access to the router to configure it by using the factory default password for the router's manager account. To limit unauthorised access to the router and its configuration, we recommend that you change this password as soon as you have configured the router for the first time. Go to"*Changing system information*" on page 7-2 of *Chapter 7, Changing Your Configuration*

8. The **Test Results page (Figure 6-13)** shows a summary of which tests have been performed and the results. It takes a few seconds to run the tests.

Figure 6-13: Test Results page



- If all the tests succeeded, click **OK** to return to the **Configuration Summary for Inter-office Leased Line connection (Figure 6-12)**.
- If any tests failed, note the test results (for instance, by printing out the **Test Results** page) and see "*Connection test fails*" on page 10-13. Click **OK** to return to the **Configuration Summary for Inter-office Leased Line connection (Figure 6-12)**.

Internet and inter-office leased line connections

1. Print out the following configuration checklist and gather the information required.

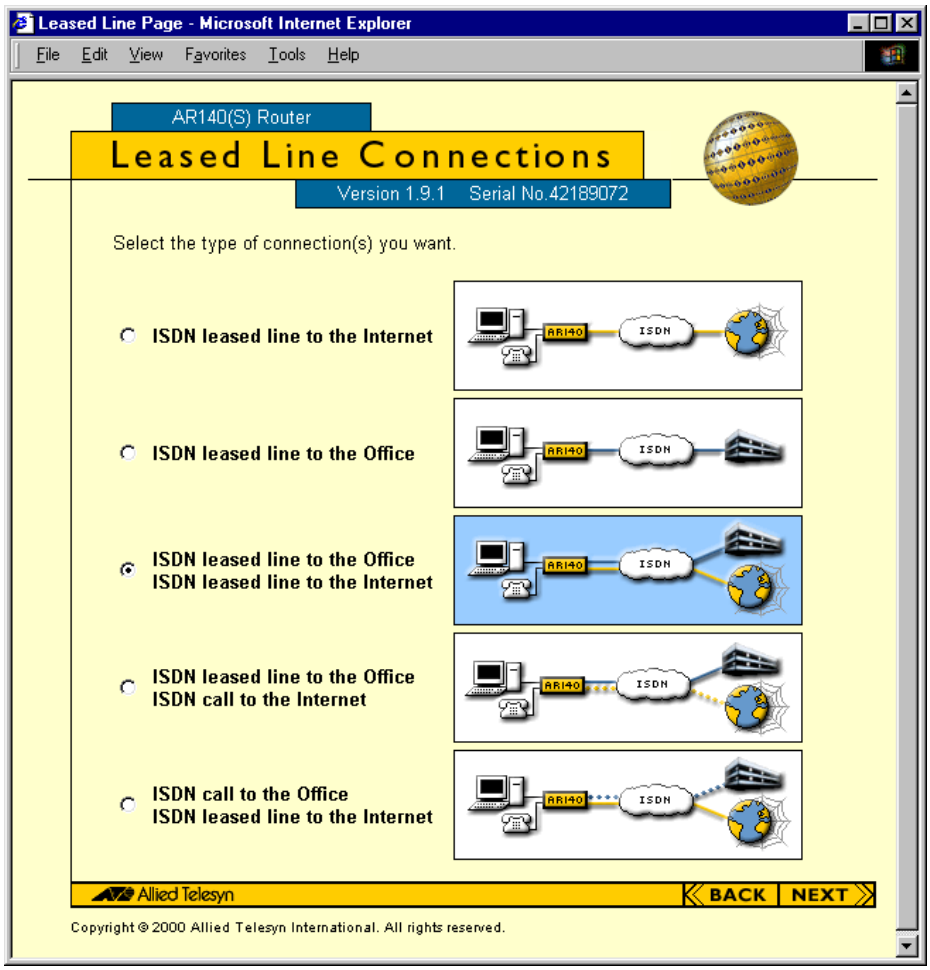
Table 6-3: Checklist for Internet and Inter-office connections, ISDN Leased Line

Configuration parameter	Examples	Enter your data below
Your ISDN provider connects you to your ISP and your remote office with a leased lines on two B channels, B1 and B2. Your ISDN provider will supply this information.		
B channels used for leased line to ISP and remote office	Leased line to ISP on B1 and remote office on B2.	
You need the IP address of your Internet Service Provider (ISP).		
IP address	123.23.4.1	
You need the following information from your network administrator at the remote office. The router uses the remote office ISDN number, username and password to contact the remote office.The local username and password are used by the remote office router to connect to your router. If your network administrator does not supply these, create your own local username and password using only letters and digits. Remember to give these to your network administrator at the remote office.		
Remote office username	canterbury	
Remote office password	lookB4	
Local office username	northland	
Local office password	icur2Ys4me	
You need one or more IP address ranges and masks from your network administrator to determine which subnetworks your router can connect to at the remote office.		
IP network at remote office	192.182.35.0	
Mask	255.255.255.0	
IP network at remote office	192.182.578.0	
Mask	255.255.255.0	

2. On the **Welcome page for the AR100 Configuration Wizard (Figure 6-1)**, click on the **Show me ISDN Leased Line connection options** link.

3. The **Leased Line Connections** page appears in Germany and Austria only. It allows you to select leased line ISDN connections or combinations of leased line and dial-on-demand ISDN connections.

Figure 6-14: Leased Line Connections page


Leased Line Page - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Leased Line Connections
Version 1.9.1 Serial No.42189072
Select the type of connection(s) you want.
ISDN leased line to the Internet
ISDN leased line to the Office
ISDN leased line to the Office
ISDN leased line to the Internet
ISDN leased line to the Office
ISDN call to the Internet
ISDN call to the Office
ISDN leased line to the Internet
AR140
ISDN
Allied Telesyn
BACK
NEXT
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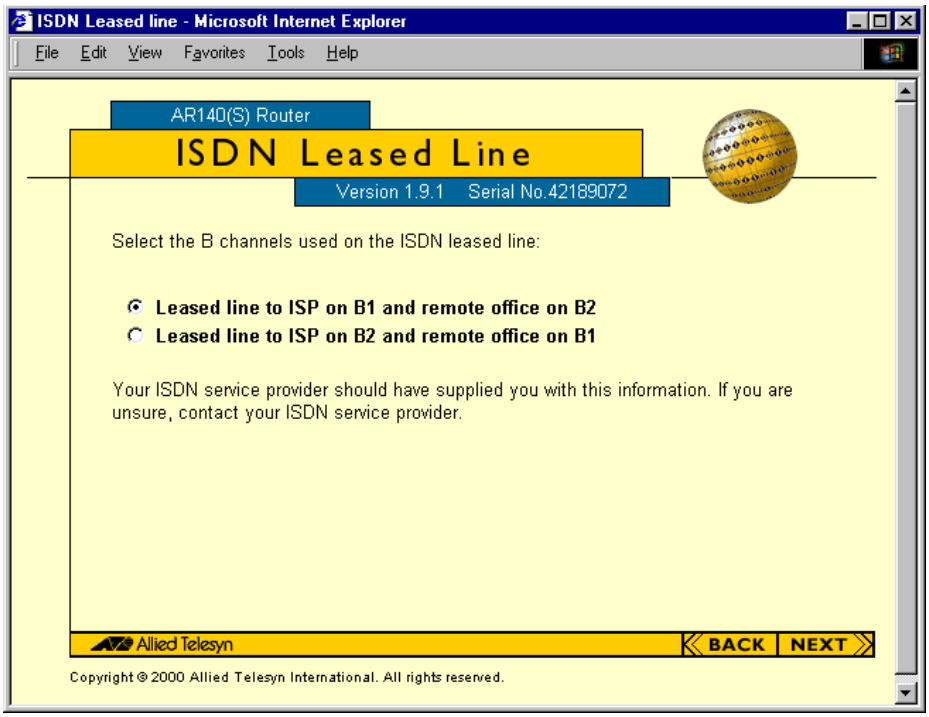
- Choose **ISDN leased line to the Office; ISDN leased line to the Internet**. Click **Next**. The **ISDN Leased Line page (Figure 6-15)** opens.

4. Your ISDN connection has two channels, B1 and B2, that can be used for two connections, and a D channel used for signalling. The **ISDN Leased Line page (Figure 6-15)** allows you to choose which of these B channels the router will use to connect to your ISP, and which it will use to connect to your remote office. If you are unsure, contact your ISDN service provider.

Figure 6-15: ISDN Leased Line page


ISDN Leased line - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
ISDN Leased Line
Version 1.9.1 Serial No.42189072
Select the B channels used on the ISDN leased line:
Leased line to ISP on B1 and remote office on B2
Leased line to ISP on B2 and remote office on B1
Your ISDN service provider should have supplied you with this information. If you are unsure, contact your ISDN service provider.
Allied Telesyn
BACK
NEXT
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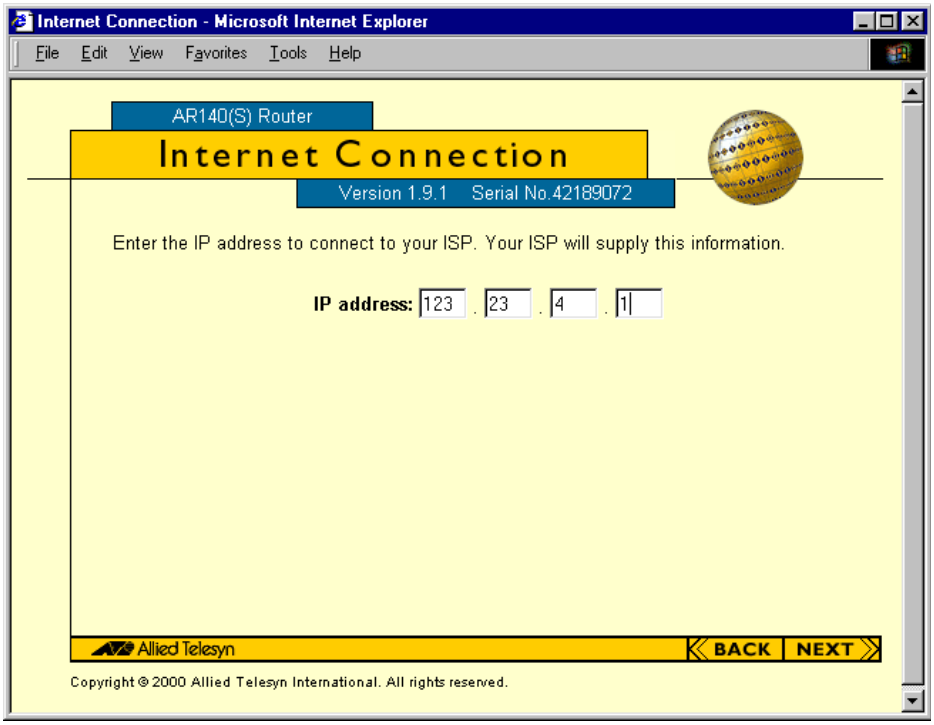
- Select the B channels for your ISDN Leased Line connections.
- Click **Next**. The **Internet Connection page for ISDN Leased Line (Figure 6-16)** opens.

5. The **Internet Connection page for ISDN Leased Line (Figure 6-16)** allows you to enter the IP address that the router will use to connect your Internet Service Provider (ISP). Your ISP will have given you this information.

Figure 6-16: Internet Connection page for ISDN Leased Line


Internet Connection - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Internet Connection
Version 1.9.1 Serial No.42189072
Enter the IP address to connect to your ISP. Your ISP will supply this information.
IP address: 123 . 23 . 4 . 1
Allied Telesyn
BACK NEXT
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- Enter the IP address for your ISP, and click **Next**.

6. The **Inter-Office Connection page for ISDN Leased Line (Figure 6-17)** allows you to enter the configuration the router needs to connect to the remote office. The network administrator at the remote office will supply you with this information.

Figure 6-17: Inter-Office Connection page for ISDN Leased Line

Inter-office Connection - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Inter-Office Connection
Version 1.9.1 Serial No.42189072
Enter the ISDN number, username and password to connect to the remote office. Your network administrator will supply this information.
Remote Office username: canterbury
Remote Office password: lookB4
Enter the username and password the remote office router will send when connecting to this router.
Local username: northland
Local password: icur2Ys4me
Your network administrator may have supplied this information. If not, create your own username and password. Use only letters and digits. A good password has a mixture of upper and lower case letters and digits. For example, tea4tWO. You will need to give your administrator the username and password you created.
Allied Telesyn
BACK
NEXT
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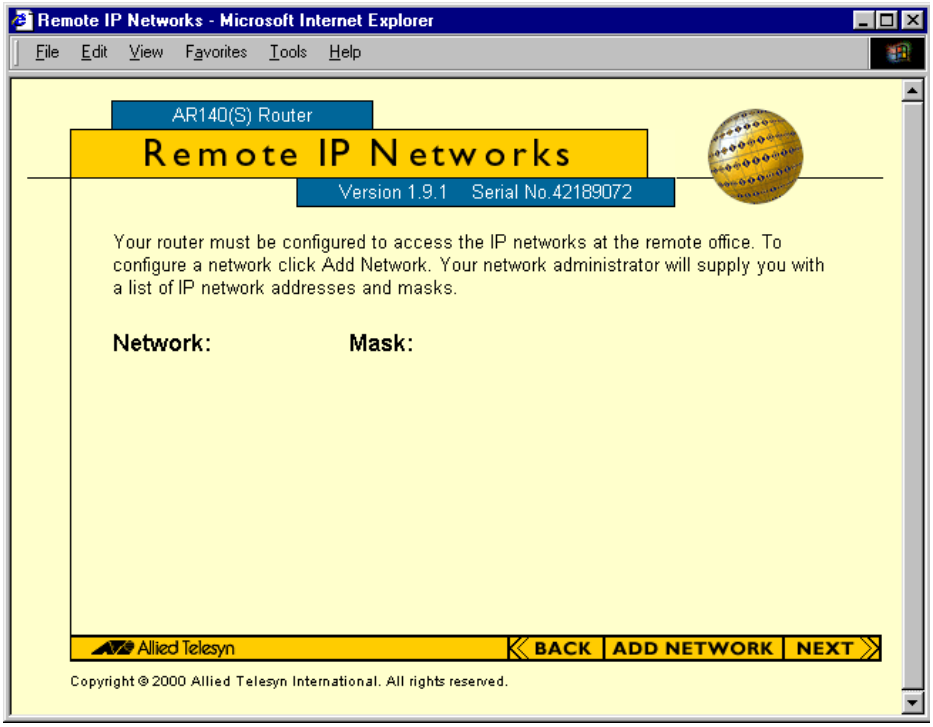
- Enter the remote office username and password the router will use to connect to the remote office.
- Enter the local user name and password that the remote office will use to contact this office. Your network administrator may supply you with this information. If not, create your own username and password. Use only letters and digits. Give this information to your network administrator at the remote office, who needs to enter it into the remote office router's configuration. This local username and password is used when the remote office router contacts your office.
- Click **Next**.

7. The **Remote IP Networks page (Figure 6-18)** shows which IP subnetworks this router has access to at the remote office. Data for destinations in the subnetworks listed here will be sent on the remote office connection. Data for destinations not specified here will be sent on the Internet connection. The first time you reach this page, there will be no subnetworks listed. Your network administrator at the remote office will supply you with a list of IP address ranges and masks.

Figure 6-18: Remote IP Networks page


Remote IP Networks - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Remote IP Networks
Version 1.9.1 Serial No.42189072
Your router must be configured to access the IP networks at the remote office. To configure a network click Add Network. Your network administrator will supply you with a list of IP network addresses and masks.
Network:
Mask:
Allied Telesyn
BACK
ADD NETWORK
NEXT
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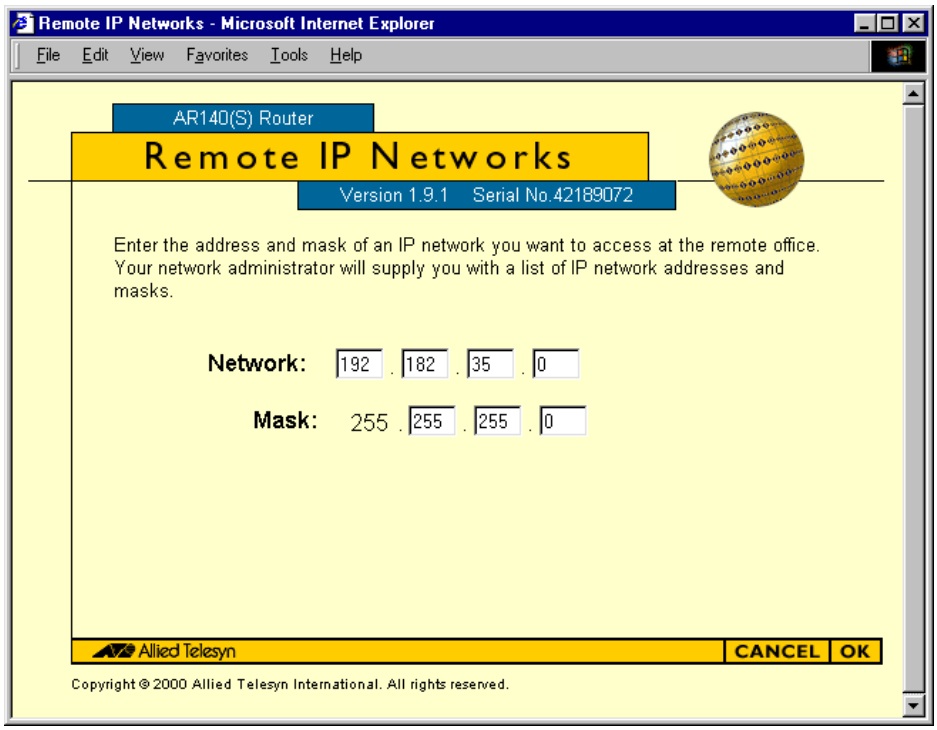
- To add an IP subnetwork, click **Add New Network**. The **New IP Network page (Figure 6-19)** opens.
- To remove an IP address range, click **Remove**.
- When the list is complete, click **Next**. The **Configuration Summary, Internet and inter-office leased line (Figure 6-20)** opens. Go to step 8 on page 6-24.

The **New IP Network page (Figure 6-19)** adds a new subnetwork to the list of subnetworks that the router has access to at the remote office. Return to this page to enter each new subnetwork.

Figure 6-19: New IP Network page


Remote IP Networks - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Remote IP Networks
Version 1.9.1 Serial No.42189072
Enter the address and mask of an IP network you want to access at the remote office.
Your network administrator will supply you with a list of IP network addresses and masks.
Network: 192 . 182 . 35 . 0
Mask: 255 . 255 . 255 . 0
Allied Telesyn
CANCEL OK
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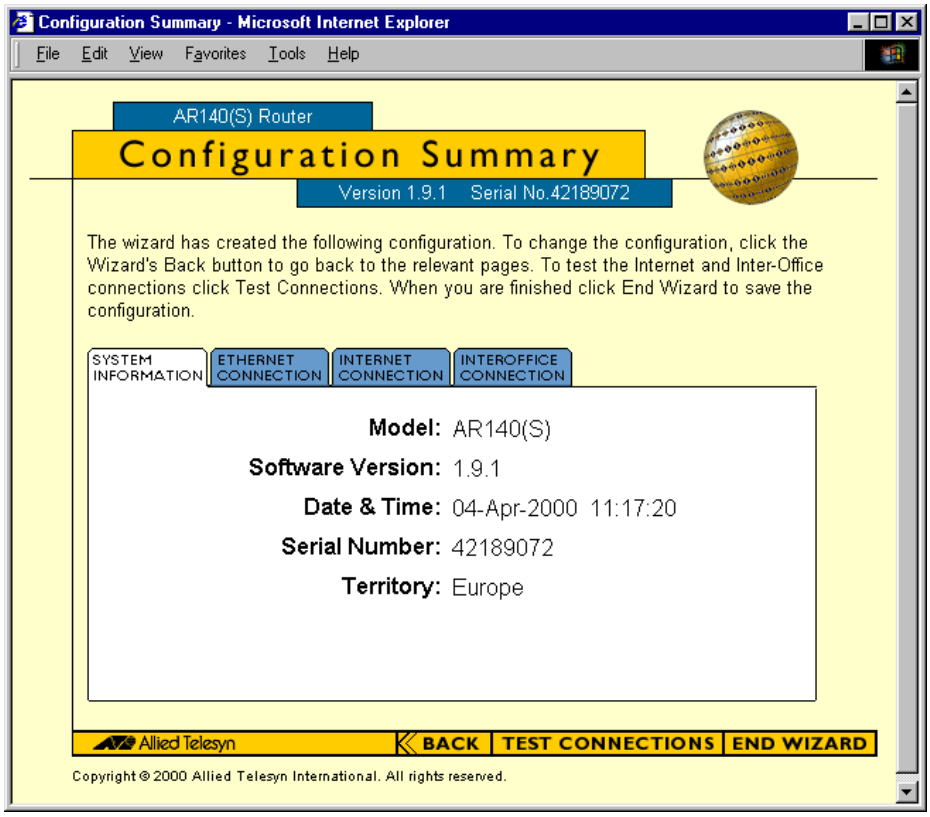
- Enter a subnetwork IP address range and mask. Click **OK** to return to the **Remote IP Networks page (Figure 6-18)**, which now shows the new IP address and mask.

8. The **Configuration Summary, Internet and inter-office leased line (Figure 6-20)** shows a summary of all the router configuration parameters you have entered, as well as standard parameters in the configuration.

Figure 6-20: Configuration Summary, Internet and inter-office leased line


Configuration Summary - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Configuration Summary
Version 1.9.1 Serial No.42189072
The wizard has created the following configuration. To change the configuration, click the Wizard's Back button to go back to the relevant pages. To test the Internet and Inter-Office connections click Test Connections. When you are finished click End Wizard to save the configuration.
SYSTEM INFORMATION
ETHERNET CONNECTION
INTERNET CONNECTION
INTEROFFICE CONNECTION
Model: AR140(S)
Software Version: 1.9.1
Date & Time: 04-Apr-2000 11:17:20
Serial Number: 42189072
Territory: Europe
Allied Telesyn
BACK
TEST CONNECTIONS
END WIZARD
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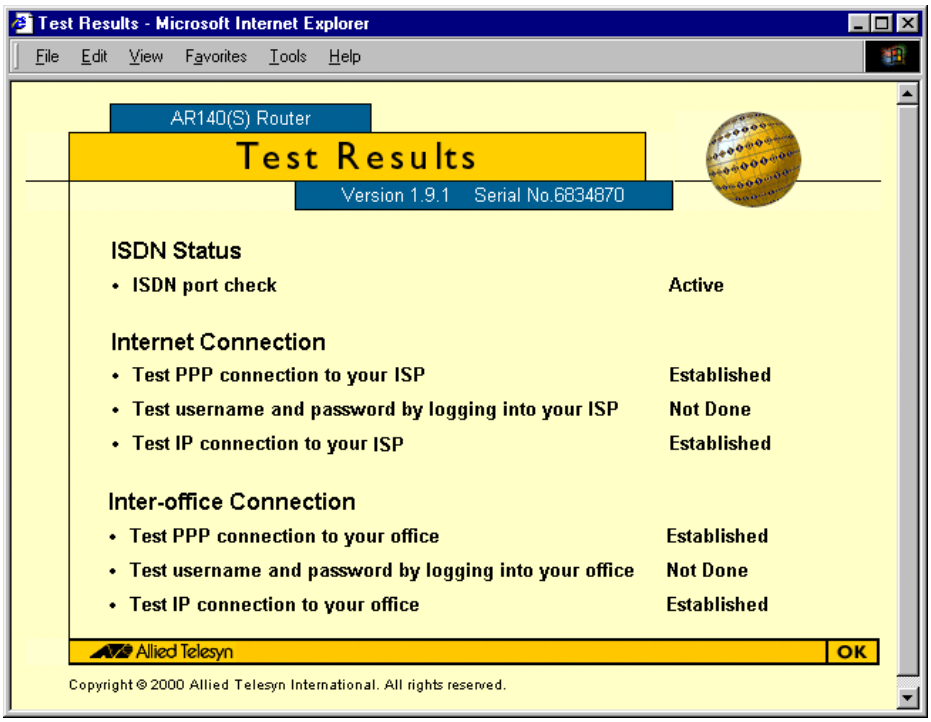
The wizard creates a standard configuration using the parameters you have entered. You can change these and other parameters from the **Main Menu** page in the future if you wish.

- If you wish to change any of the parameters you have entered, use the **Back** button at the bottom of the page to go back to the page you want to change.
- If you are satisfied with the configuration and want to test your Internet connection, click **Test Connection**. The **Test Results page (Figure 6-21)** opens to show you a summary of the connection test results.
- When you are satisfied with the configuration, click **End Wizard** to save the configuration. The **AR100 Main Menu page (Figure 4-2)** opens.
- Put a bookmark in your web browser at this page so that you can easily reach it in the future.

Note: You have gained access to the router to configure it by using the factory default password for the router's manager account. To limit unauthorised access to the router and its configuration, we recommend that you change this password as soon as you have configured the router for the first time. Go to"*Changing system information*" on page 7-2 of *Chapter 7, Changing Your Configuration*

9. The **Test Results page (Figure 6-21)** shows a summary of which tests have been performed and the results. It takes a few seconds to run the tests.

Figure 6-21: Test Results page


Test Results - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Test Results
Version 1.9.1 Serial No.6834870
ISDN Status
• ISDN port check Active
Internet Connection
• Test PPP connection to your ISP Established
• Test username and password by logging into your ISP Not Done
• Test IP connection to your ISP Established
Inter-office Connection
• Test PPP connection to your office Established
• Test username and password by logging into your office Not Done
• Test IP connection to your office Established
Allied Telesyn
OK
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- If all the tests succeeded, click **OK** to return to the **Configuration Summary, Internet and inter-office leased line (Figure 6-20)**.
- If any tests failed, note the test results (for instance, by printing out the **Test Results** page) and see *"Connection test fails"* on page 10-13. Click **OK** to return to the **Configuration Summary, Internet and inter-office leased line (Figure 6-20)**.

Internet dial-on-demand & inter-office leased line connections

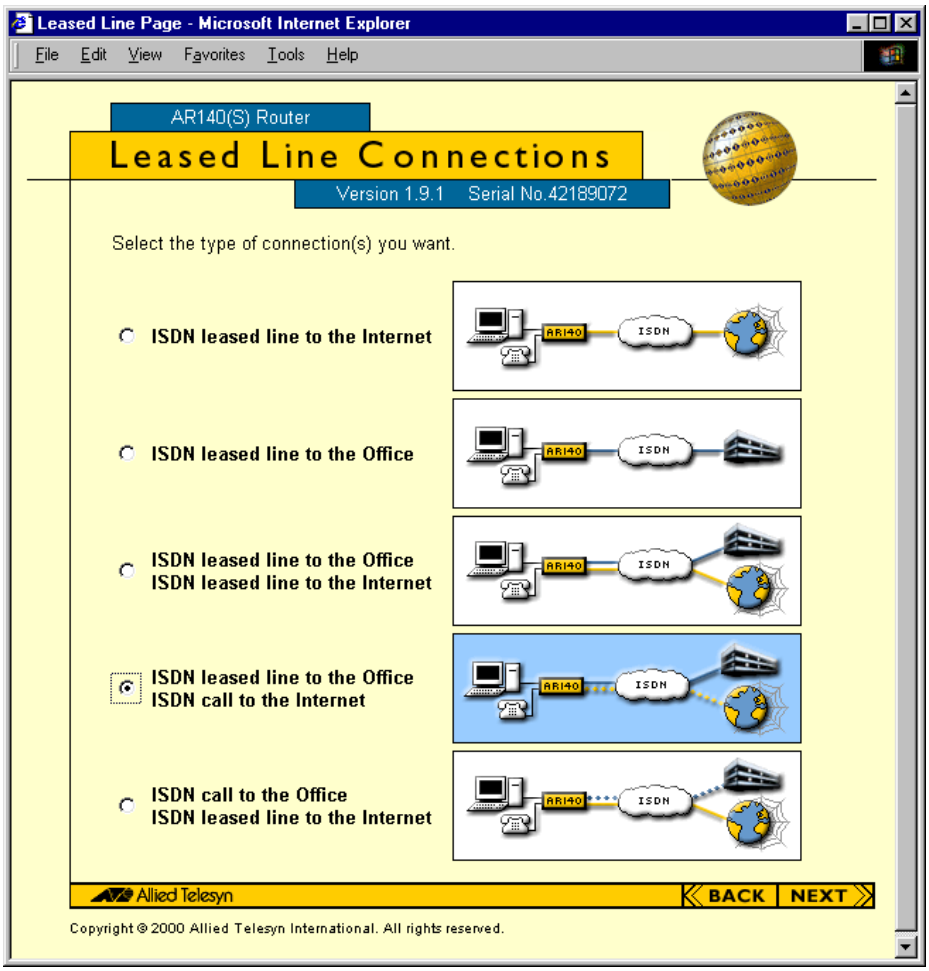
1. Print out the following checklist, and gather the information required.

Table 6-4: Checklist for Internet Dial-on-Demand and Inter-office Leased Line

Configuration parameter	Examples	Enter your data below
Your ISDN provider connects you to your remote office with a leased line on one of two B channels, B1 and B2. Your ISDN provider will supply this information.		
B channels used for leased line to remote office	Leased line to remote office on B2	
If you have an AR140 with phone ports, your ISDN provider may have supplied one or two ISDN numbers that external callers will use to ring the phone extensions. Determine whether you want a call to one of the phones to ring both phones, or only that phone.		
Local ISDN number - Phone 1	35676767	
Local ISDN number - Phone 2	356767	
Each number rings one or both phones?	RIng only the phone on the port for the number called	
You need the following information from your ISP service provider. The ISDN number is the phone number your router will dial to connect to your ISP (through which you access the Internet). Most ISPs dynamically allocate IP addresses. If your ISP has given you a fixed IP address, record it here.		
ISP ISDN number	3337777	
ISP Username	janes	
ISP Password	tea4tWo	
IP address or dynamic allocation	Dynamic	
You need the following information from your network administrator at the remote office. The router uses the remote office ISDN number, username and password to contact the remote office.The local username and password are used by the remote office router to connect to your router. If your network administrator does not supply these, create your own local username and password using only letters and digits. Remember to give these to your network administrator at the remote office.		
Remote office username	canterbury	
Remote office password	lookB4	
Local office username	northland	
Local office password	icur2Ys4me	
You need one or more IP address ranges and masks from your network administrator to determine which subnetworks your router can connect to at the remote office.		
IP network at remote office	192.182.35.0	
Mask	255.255.255.0	
IP network at remote office	192.182.36.0	
Mask	255.255.255.0	

2. On the **Welcome page for the AR100 Configuration Wizard (Figure 6-1)**, click the **Show me ISDN Leased Line connection options** link.
3. The **Leased Line Connections** page appears in Germany and Austria only. It allows you to select leased line ISDN connections or combinations of leased line and dial-on-demand ISDN connections.

Figure 6-22: Leased Line Connections page


Leased Line Page - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Leased Line Connections
Version 1.9.1 Serial No.42189072
Select the type of connection(s) you want.
ISDN leased line to the Internet
ISDN leased line to the Office
ISDN leased line to the Office
ISDN leased line to the Internet
ISDN leased line to the Office
ISDN call to the Internet
ISDN call to the Office
ISDN leased line to the Internet
AR140
ISDN
Allied Telesyn
BACK
NEXT
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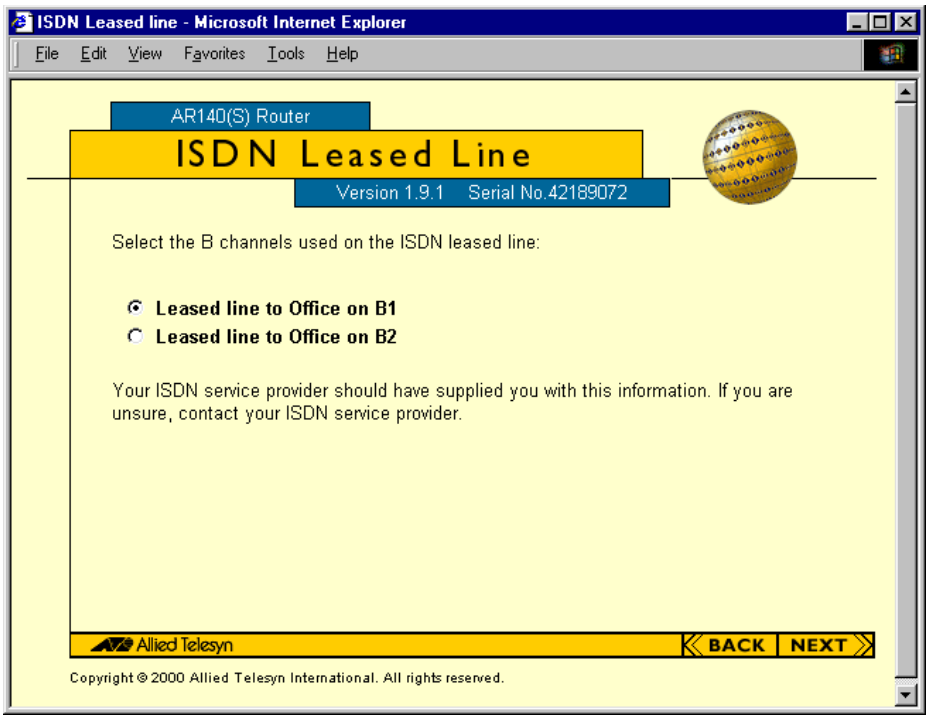
- Choose **ISDN leased line to the Office; ISDN call to the Internet**. Click **Next**. The **ISDN Leased Line page (Figure 6-23)** opens.

4. Your ISDN connection has two channels, B1 and B2, that can be used for one or two connections, and a D channel used for signalling. The **ISDN Leased Line page (Figure 6-23)** allows you to choose which of these B channels the router will use for the leased line connection to your remote office. If you are unsure, contact your ISDN service provider.

Figure 6-23: ISDN Leased Line page


ISDN Leased line - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
ISDN Leased Line
Version 1.9.1 Serial No.42189072
Select the B channels used on the ISDN leased line:
Leased line to Office on B1
Leased line to Office on B2
Your ISDN service provider should have supplied you with this information. If you are unsure, contact your ISDN service provider.
Allied Telesyn
BACK
NEXT
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- Select the B channel for your ISDN Leased Line connection. Click **Next**.

If you have an AR140 router with phone ports, the **Phone Setup page (Figure 6-24)** opens. Continue at step 5 on page 6-29.

If you have an AR130 router without phone ports, the **Internet Connection page for ISDN Dial-on-Demand (Figure 6-25)** opens. Go to step 6 on page 6-30.

5. The **Phone Setup page (Figure 6-24)** only appears on the AR140 with phone ports. It allows you to enter the telephone numbers that people will use to call the telephones or facsimile machines you connect to these phone ports.

Figure 6-24: Phone Setup page

Phone Setup - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Phone Setup
Version 1.9.1 Serial No.42189072
Enter the telephone numbers allocated to you by your ISDN provider for the phone ports on your router. These are the telephone numbers that people will use to call you. If you only have one number, leave the other one blank.
Number for phone port 1: 2345467
Number for phone port 2: 234568
Select the ring mode for the phone ports:
A call to either number will ring both phones
A call to a number will ring only the phone connected to that port
Allied Telesyn
BACK
NEXT
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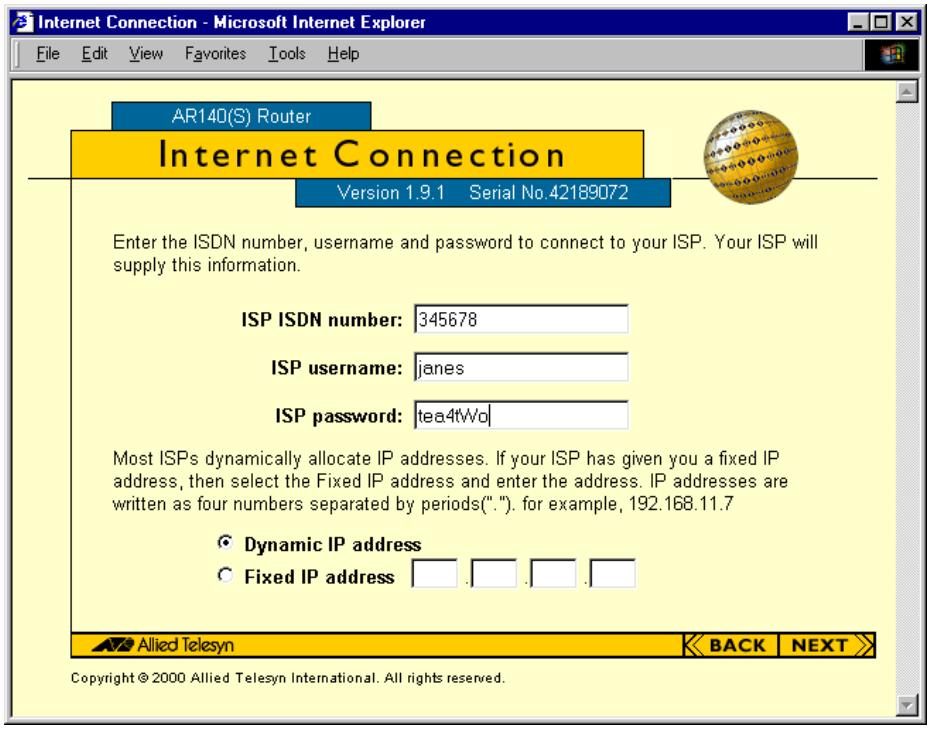
- Enter the local telephone numbers allocated to you by your ISDN provider. If you only have one number, leave the other blank.
- Select whether you want both phones to ring when either number is called, or only the phone on the port for the number called. Click **Next**.

The **Internet Connection page for ISDN Dial-on-Demand (Figure 6-25)** opens.

6. The **Internet Connection page for ISDN Dial-on-Demand (Figure 6-25)** allows you to enter configuration information for your Internet connection. Your ISP will have given you account information that the router needs to connect to the Internet through your ISP.

Figure 6-25: Internet Connection page for ISDN Dial-on-Demand


Internet Connection - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Internet Connection
Version 1.9.1 Serial No.42189072
Enter the ISDN number, username and password to connect to your ISP. Your ISP will supply this information.
ISP ISDN number: 345678
ISP username: janes
ISP password: tea4tWo
Most ISPs dynamically allocate IP addresses. If your ISP has given you a fixed IP address, then select the Fixed IP address and enter the address. IP addresses are written as four numbers separated by periods("."). for example, 192.168.11.7
Dynamic IP address
Fixed IP address
Allied Telesyn
BACK
NEXT
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- Enter your ISP's ISDN number. This is the phone number or directory number that your router dials to call your ISP.
- Enter the username and password your router will use to connect to the ISP.
- Choose dynamic or fixed IP address. Most ISPs dynamically allocate IP addresses, but some allocate fixed IP addresses. If your ISP has given you an IP address, select Fixed IP address and enter the IP address.
- Click **Next**. The next page to open is the **Inter-Office Connection page for ISDN Leased Line (Figure 6-26)**.

7. The **Inter-Office Connection page for ISDN Leased Line (Figure 6-26)** allows you to enter the information the router needs to connect to the remote office. The network administrator at the remote office will supply you with this information.

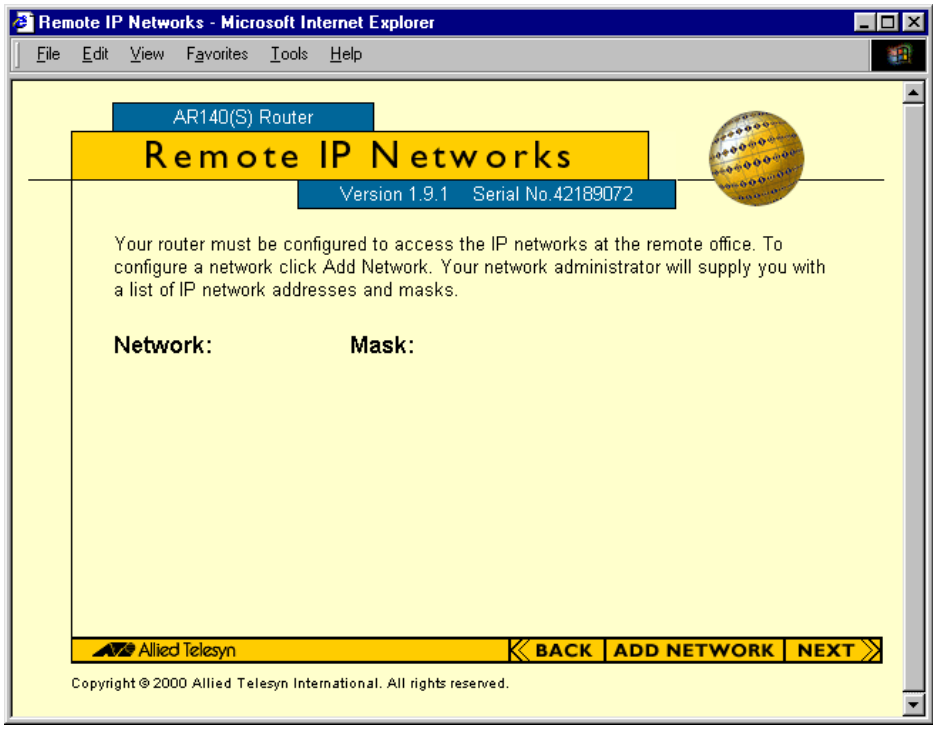
Figure 6-26: Inter-Office Connection page for ISDN Leased Line

Inter-office Connection - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Inter-Office Connection
Version 1.9.1 Serial No.42189072
Enter the ISDN number, username and password to connect to the remote office. Your network administrator will supply this information.
Remote Office username: canterbury
Remote Office password: lookB4
Enter the username and password the remote office router will send when connecting to this router.
Local username: northland
Local password: icur2Ys4me
Your network administrator may have supplied this information. If not, create your own username and password. Use only letters and digits. A good password has a mixture of upper and lower case letters and digits. For example, tea4tWO. You will need to give your administrator the username and password you created.
Allied Telesyn
BACK
NEXT
Copyright © 2000 Allied Telesyn International. All rights reserved.

- Enter the remote office username and password the router will use to connect to the remote office.
- Enter the local user name and password that the remote office will use to contact this office. Your network administrator may supply you with this information. If not, create your own username and password. Use only letters and digits. Give this information to your network administrator at the remote office, who needs to enter it into the remote office router's configuration. This local username and password is used when the remote office router contacts your office.
- Click **Next**.

8. The **Remote IP Networks page (Figure 6-27)** shows which IP subnetworks this router has access to at the remote office. Data for destinations in the subnetworks listed here will be sent on the remote office connection. Data for destinations not specified here will be sent on the Internet connection. The first time you reach this page, there will be no subnetworks listed. Your network administrator at the remote office will supply you with a list of IP address ranges and masks.

Figure 6-27: Remote IP Networks page


Remote IP Networks - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Remote IP Networks
Version 1.9.1 Serial No.42189072
Your router must be configured to access the IP networks at the remote office. To configure a network click Add Network. Your network administrator will supply you with a list of IP network addresses and masks.
Network:
Mask:
Allied Telesyn
BACK
ADD NETWORK
NEXT
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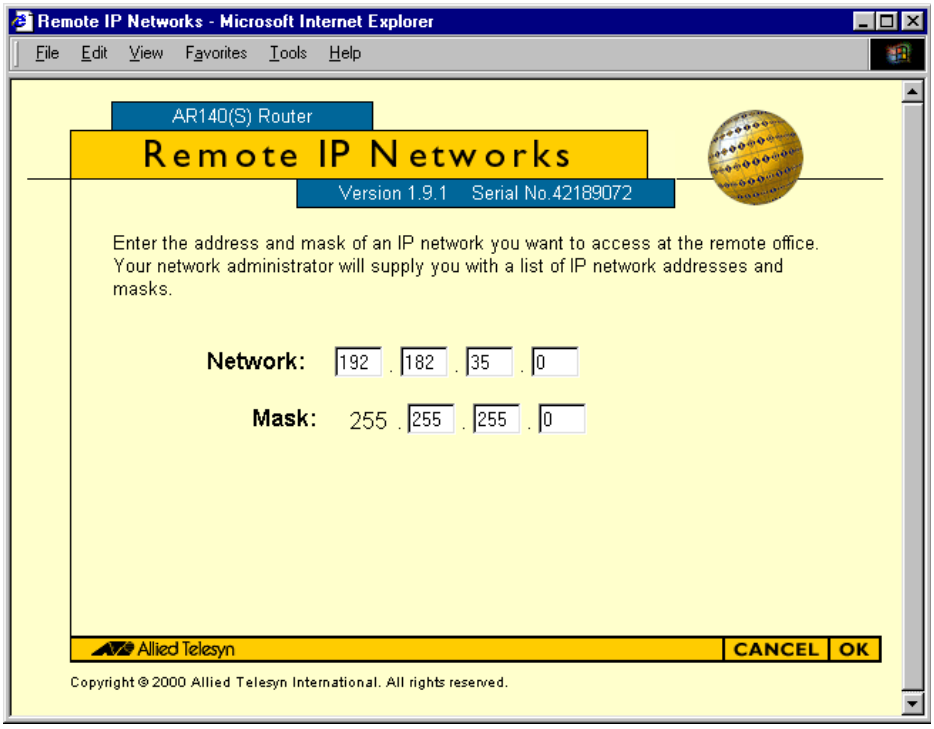
- To add an IP subnetwork, click **Add New Network**. The **New IP Network page (Figure 6-28)** opens.
- To remove an IP address range, click **Remove**.
- When the list is complete, click **Next**. The **Configuration Summary: Internet dial-on-demand, inter-office leased line (Figure 6-29)** opens. Go to step 9 on page 6-34.

The **New IP Network page (Figure 6-28)** adds a new subnetwork to the list of subnetworks that the router has access to at the remote office. Return to this page to enter each new subnetwork.

Figure 6-28: New IP Network page


Remote IP Networks - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Remote IP Networks
Version 1.9.1 Serial No.42189072
Enter the address and mask of an IP network you want to access at the remote office. Your network administrator will supply you with a list of IP network addresses and masks.
Network: 192 . 182 . 35 . 0
Mask: 255 . 255 . 255 . 0
Allied Telesyn
CANCEL OK
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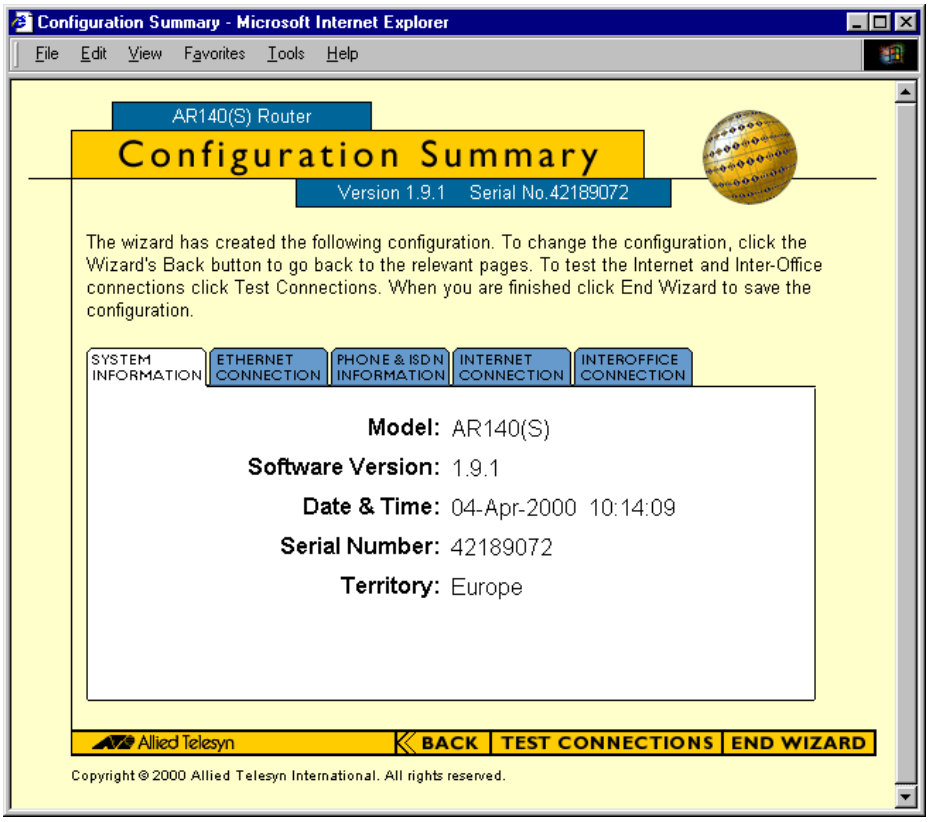
- Enter a subnetwork IP address range and mask. Click **OK** to return to the **Remote IP Networks page (Figure 6-27)**, which now shows the new IP address and mask.

9. The **Configuration Summary, Internet and inter-office leased line (Figure 6-20)** shows a summary of all the router configuration parameters you have entered, as well as standard parameters in the configuration.

Figure 6-29: Configuration Summary: Internet dial-on-demand, inter-office leased line


Configuration Summary - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Configuration Summary
Version 1.9.1 Serial No.42189072
The wizard has created the following configuration. To change the configuration, click the Wizard's Back button to go back to the relevant pages. To test the Internet and Inter-Office connections click Test Connections. When you are finished click End Wizard to save the configuration.
SYSTEM INFORMATION
ETHERNET CONNECTION
PHONE & ISDN INFORMATION
INTERNET CONNECTION
INTEROFFICE CONNECTION
Model: AR140(S)
Software Version: 1.9.1
Date & Time: 04-Apr-2000 10:14:09
Serial Number: 42189072
Territory: Europe
Allied Telesyn
BACK
TEST CONNECTIONS
END WIZARD
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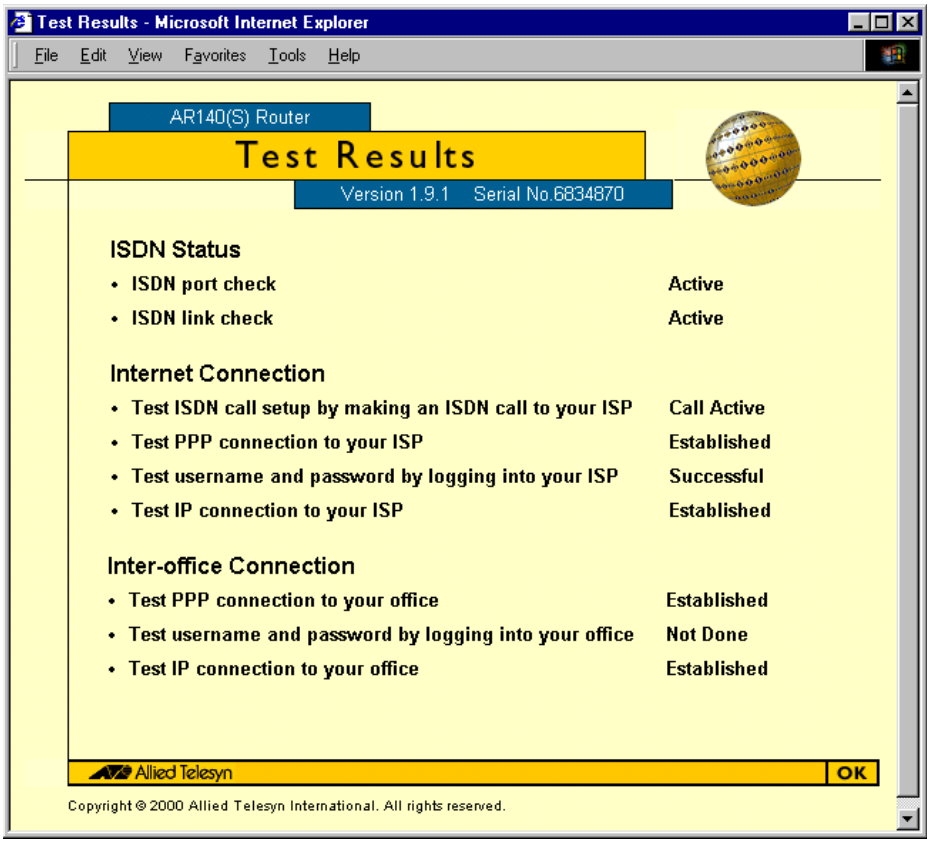
The wizard creates a standard configuration using the parameters you have entered. You can change these and other parameters from the **Main Menu** page in the future if you wish.

- If you wish to change any of the parameters you have entered, use the **Back** button at the bottom of the page to go back to the page you want to change.
- If you are satisfied with the configuration and want to test your Internet connection, click **Test Connection**. The **Test Results page (Figure 6-30)** opens to show you a summary of the connection test results.
- When you are satisfied with the configuration, click **End Wizard** to save the configuration. The **AR100 Main Menu page (Figure 4-2)** opens.
- Put a bookmark in your web browser at this page so that you can easily reach it in the future.

Note: You have gained access to the router to configure it by using the factory default password for the router's manager account. To limit unauthorised access to the router and its configuration, we recommend that you change this password as soon as you have configured the router for the first time. Go to"*Changing system information*" on page 7-2 of *Chapter 7, Changing Your Configuration*

10. The **Test Results page (Figure 6-30)** shows a summary of which tests have been performed and the results. It takes a few seconds to run the tests.

Figure 6-30: Test Results page


Test Results - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Test Results
Version 1.9.1 Serial No.6834870
ISDN Status
• ISDN port check Active
• ISDN link check Active
Internet Connection
• Test ISDN call setup by making an ISDN call to your ISP Call Active
• Test PPP connection to your ISP Established
• Test username and password by logging into your ISP Successful
• Test IP connection to your ISP Established
Inter-office Connection
• Test PPP connection to your office Established
• Test username and password by logging into your office Not Done
• Test IP connection to your office Established
Allied Telesyn
OK
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- If all the tests succeeded, click **OK** to return to the **Configuration Summary: Internet dial-on-demand, inter-office leased line (Figure 6-29)**.
- If any tests failed, note the test results (for instance, by printing out the **Test Results** page) and see "*Connection test fails*" on page 10-13. Click **OK** to return to the **Configuration Summary: Internet dial-on-demand, inter-office leased line (Figure 6-29)**.

Internet leased line & inter-office dial-on-demand connections

1. Print out the following checklist, and gather the information required.

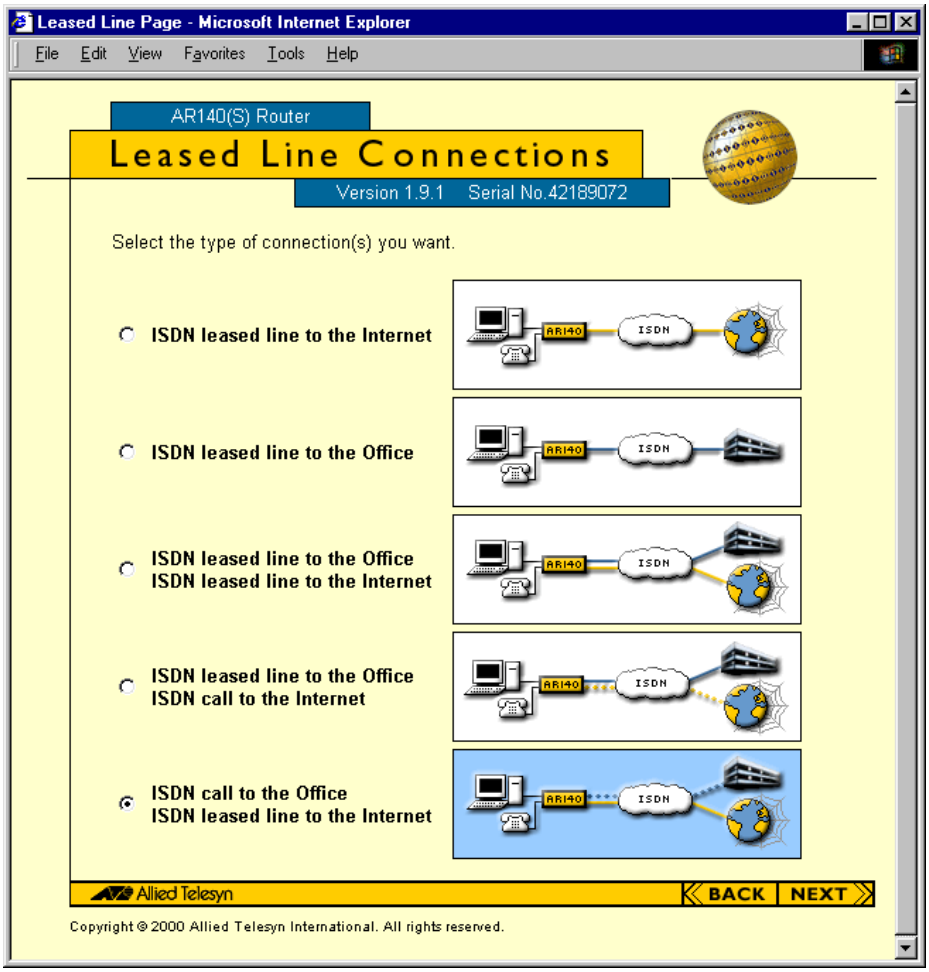
Table 6-5: Checklist for Internet Leased Line and Inter-office Dial-on-Demand

Configuration parameter	Examples	Enter your data below
Your ISDN provider connects you to your ISP with a leased line on one of two B channels, B1 or B2. Your ISDN provider will supply this information.		
B channels used for leased line to ISP	Leased line to ISP on B1	
If you have an AR140 with phone ports, your ISDN provider may have supplied you with one or two ISDN numbers that external callers will use to ring the phone extensions. Determine whether you want a call to one of the phones to ring both phones, or only that phone.		
Local ISDN number for Phone 1	35676767	
Local ISDN number for Phone 2	356767	
Each number rings one or both phones?	Ring only the phone on the port for the number called	
You need the IP address of your Internet Service Provider (ISP).		
IP address	123.23.4.1	
You need the following information from your network administrator at the remote office. The router uses the remote office ISDN number, username and password to contact the remote office.The local username and password are used by the remote office router to connect to your router. If your network administrator does not supply these, create your own local username and password using only letters and digits. Remember to give these to your network administrator at the remote office.		
ISDN number	3337777	
Remote office username	canterbury	
Remote office password	lookB4	
Local office username	northland	
Local office password	icur2Ys4me	
You need one or more IP address ranges and masks from your network administrator to determine which subnetworks your router can connect to at the remote office.		
IP network at remote office	192.182.35.0	
Mask	255.255.255.0	
IP network at remote office	192.182.578.0	
Mask	255.255.255.0	

2. On the **Welcome page for the AR100 Configuration Wizard (Figure 6-1)**, click on the **Show me ISDN Leased Line connection options** link.

3. The **Leased Line Connections** page appears in Germany and Austria only. It allows you to select leased line ISDN connections or combinations of leased line and dial-on-demand ISDN connections.

Figure 6-31: Leased Line Connections page


Leased Line Page - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Leased Line Connections
Version 1.9.1 Serial No.42189072
Select the type of connection(s) you want.
ISDN leased line to the Internet
ISDN leased line to the Office
ISDN leased line to the Office
ISDN leased line to the Internet
ISDN leased line to the Office
ISDN call to the Internet
ISDN call to the Office
ISDN leased line to the Internet
AR140
ISDN
Allied Telesyn
BACK
NEXT
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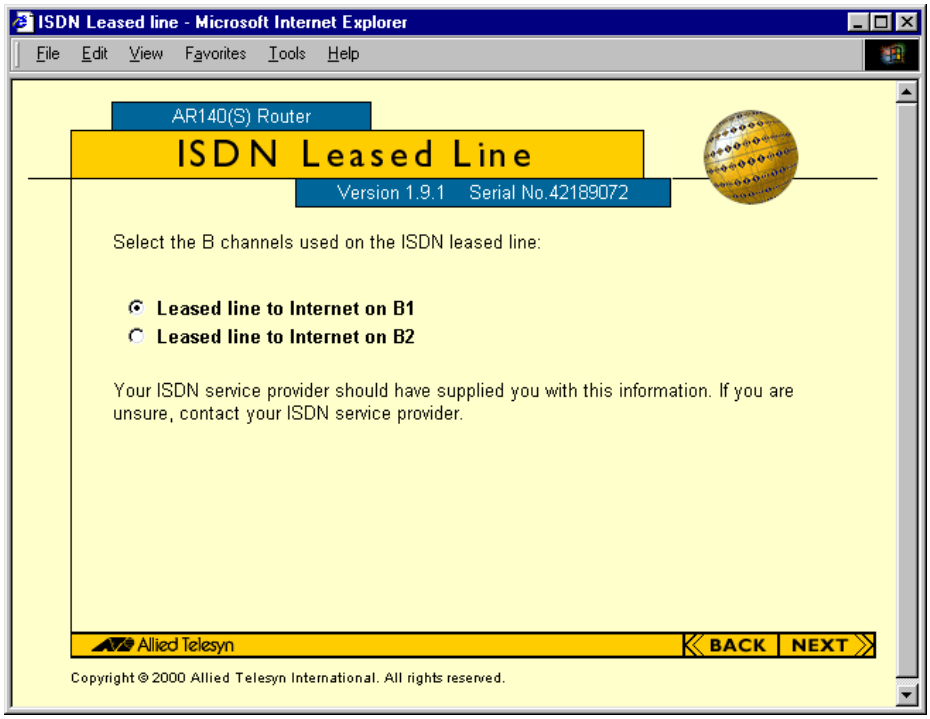
- Choose **ISDN call to the Office; ISDN leased line to the Internet**. Click **Next**. The **ISDN Leased Line page (Figure 6-32)** opens.

4. Your ISDN connection has two channels, B1 and B2, that can be used for your two connections, and a D channel used for signalling. The **ISDN Leased Line page (Figure 6-32)** allows you to choose which one of these B channels the router will use to connect to your ISP. If you are unsure, contact your ISDN service provider.

Figure 6-32: ISDN Leased Line page


ISDN Leased line - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
ISDN Leased Line
Version 1.9.1 Serial No.42189072
Select the B channels used on the ISDN leased line:
Leased line to Internet on B1
Leased line to Internet on B2
Your ISDN service provider should have supplied you with this information. If you are unsure, contact your ISDN service provider.
Allied Telesyn
BACK
NEXT
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- Select the B channel for your ISDN Leased Line connection. Click **Next**.

If you have an AR140 router with phone ports, the **Phone Setup page (Figure 6-33)** opens. Continue at step 5 on page 6-39.

If you have an AR130 router without phone ports, the **Internet Connection page for ISDN Leased Line (Figure 6-34)** opens. Go step 6 on page 6-40.

5. The **Phone Setup page (Figure 6-33)** only appears on the AR140 with phone ports. It allows you to enter the telephone numbers that people will use to call the telephones or facsimile machines you connect to these phone ports.

Figure 6-33: Phone Setup page

Phone Setup - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Phone Setup
Version 1.9.1 Serial No.42189072
Enter the telephone numbers allocated to you by your ISDN provider for the phone ports on your router. These are the telephone numbers that people will use to call you. If you only have one number, leave the other one blank.
Number for phone port 1: 2345467
Number for phone port 2: 234568
Select the ring mode for the phone ports:
A call to either number will ring both phones
A call to a number will ring only the phone connected to that port
Allied Telesyn
BACK
NEXT
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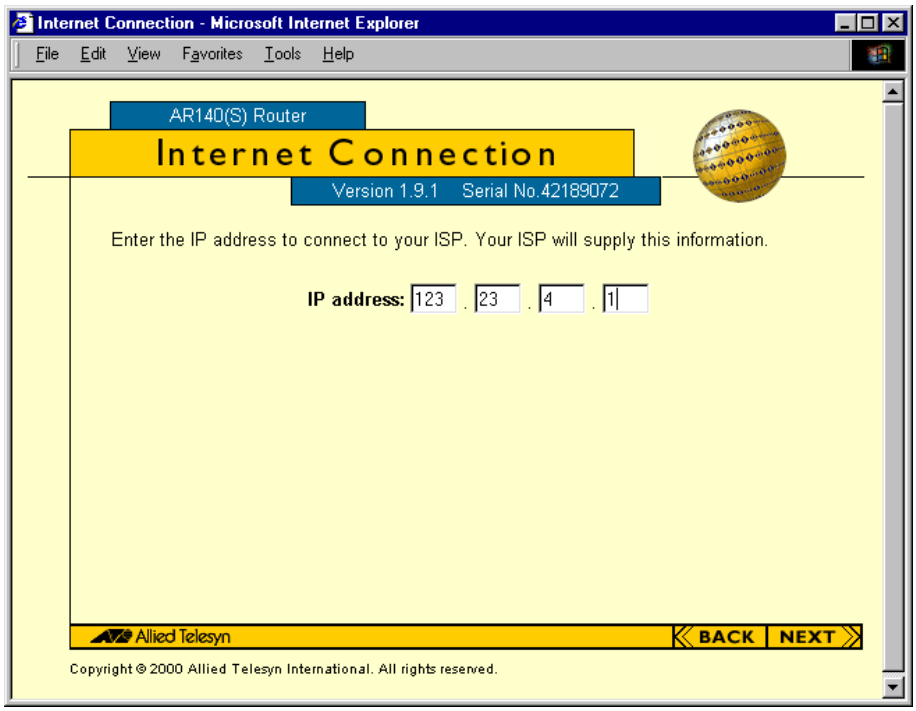
- Enter the local telephone numbers allocated to you by your ISDN provider. If you only have one number, leave the other blank.
- Select whether you want both phones to ring when either number is called, or only the phone on the port for the number called. Click **Next**.

The **Internet Connection page for ISDN Leased Line (Figure 6-34)** opens.

6. The **Internet Connection page for ISDN Leased Line (Figure 6-34)** allows you to enter the IP address that the router will use to connect your Internet Service Provider (ISP). Your ISP will have given you this information.

Figure 6-34: Internet Connection page for ISDN Leased Line


Internet Connection - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Internet Connection
Version 1.9.1 Serial No.42189072
Enter the IP address to connect to your ISP. Your ISP will supply this information.
IP address: 123 . 23 . 4 . 1
Allied Telesyn
BACK
NEXT
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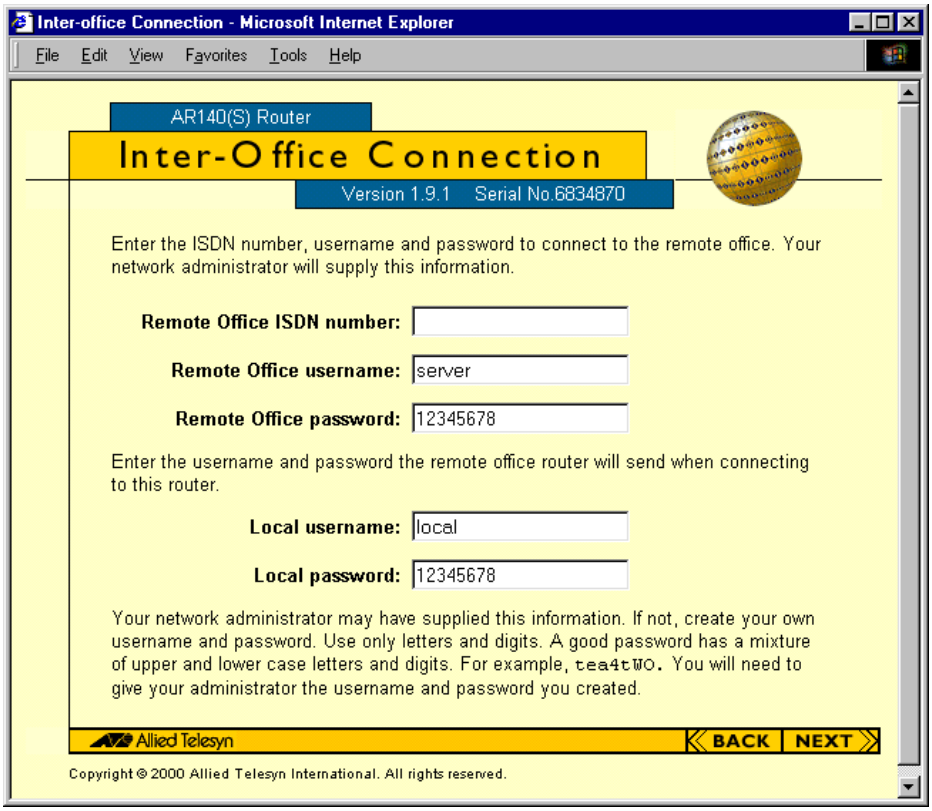
- Enter the IP address for your ISP, and click **Next**.

7. The **Inter-Office Connection page for ISDN Dial-on-Demand (Figure 6-35)** allows you to enter the configuration the router needs to connect to the remote office. The network administrator at the remote office will supply you with this information.

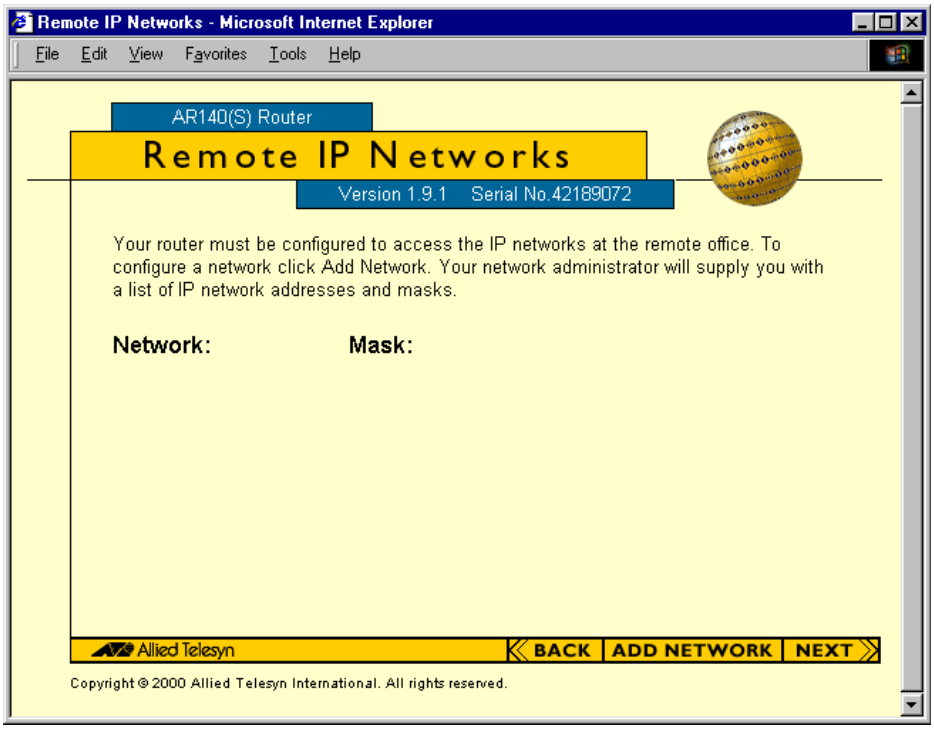
Figure 6-35: Inter-Office Connection page for ISDN Dial-on-Demand


Inter-office Connection - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Inter-Office Connection
Version 1.9.1 Serial No.6834870
Enter the ISDN number, username and password to connect to the remote office. Your network administrator will supply this information.
Remote Office ISDN number:
Remote Office username: server
Remote Office password: 12345678
Enter the username and password the remote office router will send when connecting to this router.
Local username: local
Local password: 12345678
Your network administrator may have supplied this information. If not, create your own username and password. Use only letters and digits. A good password has a mixture of upper and lower case letters and digits. For example, tea4tWO. You will need to give your administrator the username and password you created.
Allied Telesyn
BACK
NEXT
Copyright © 2000 Allied Telesyn International. All rights reserved.

- Enter the remote office ISDN number. This is the phone number the router will use to call the remote office.
- Enter the remote office username and password the router will use to connect to the remote office.
- Enter the local user name and password that the remote office will use to contact this office. Your network administrator may supply you with this information. If not, create your own username and password. Use only letters and digits. Give this information to your network administrator at the remote office, who needs to enter it into the remote office router's configuration. This local username and password is used when the remote office router contacts your office.
- Click **Next**. The next page to open is the **Remote IP Networks (Figure 6-36)**.

8. The **Remote IP Networks (Figure 6-36)** shows which IP subnetworks this router has access to at the remote office. Data for destinations in the subnetworks listed here will be sent on the remote office connection. Data for destinations not specified here will be sent on the Internet connection. The first time you reach this page, there will be no subnetworks listed. Your network administrator at the remote office will supply you with a list of IP address ranges and masks.

Figure 6-36: Remote IP Networks


Remote IP Networks - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Remote IP Networks
Version 1.9.1 Serial No.42189072
Your router must be configured to access the IP networks at the remote office. To configure a network click Add Network. Your network administrator will supply you with a list of IP network addresses and masks.
Network:
Mask:
Allied Telesyn
BACK
ADD NETWORK
NEXT
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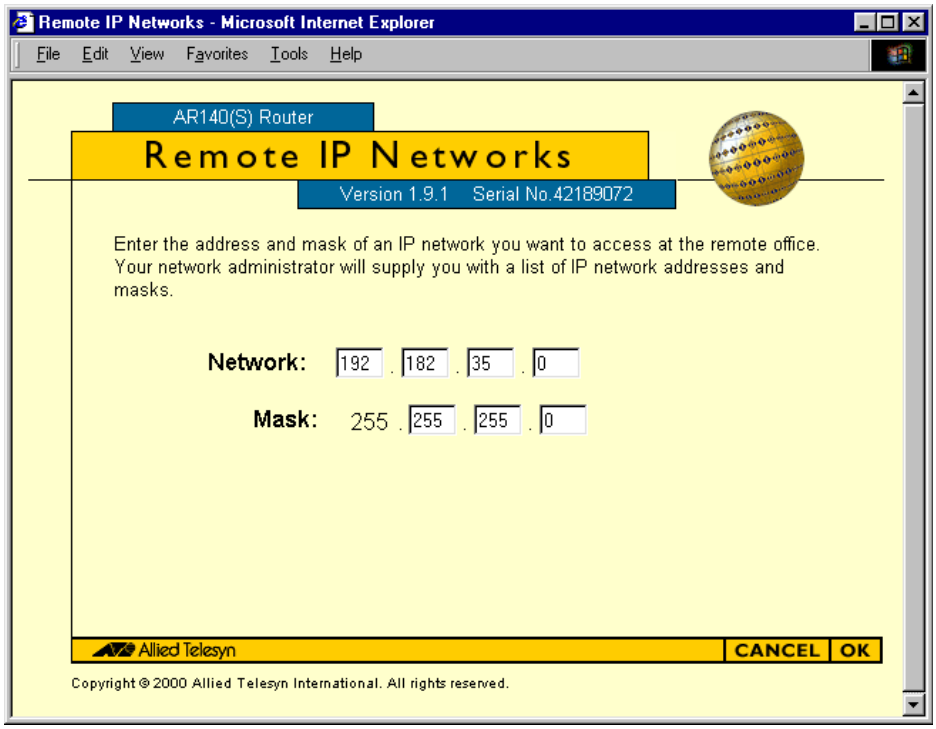
- To add an IP subnetwork, click **Add New Network**. The **New IP Network page (Figure 6-37)** opens.
- To remove an IP address range, click **Remove**.
- When the list is complete, click **Next**. The **Configuration Summary page for Internet and inter-office connections (Figure 6-38)** opens. Go to step 9 on page 6-44.

The **New IP Network page (Figure 6-37)** adds a new subnetwork to the list of subnetworks that the router has access to at the remote office. Return to this page to enter each new subnetwork.

Figure 6-37: New IP Network page


Remote IP Networks - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Remote IP Networks
Version 1.9.1 Serial No.42189072
Enter the address and mask of an IP network you want to access at the remote office.
Your network administrator will supply you with a list of IP network addresses and masks.
Network: 192 . 182 . 35 . 0
Mask: 255 . 255 . 255 . 0
Allied Telesyn
CANCEL OK
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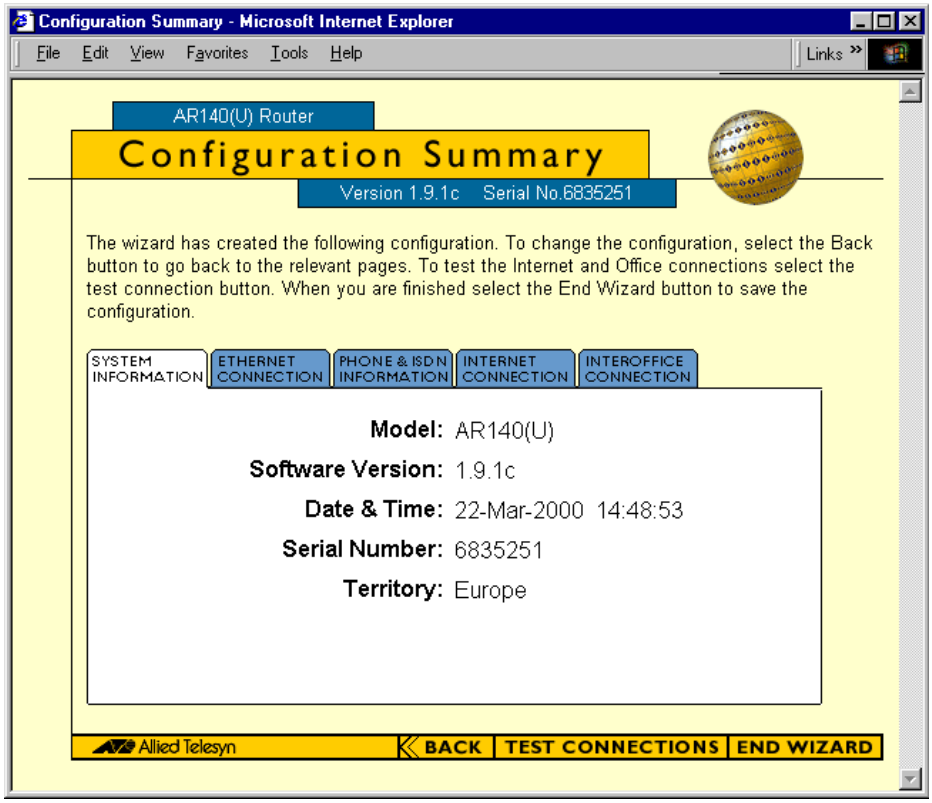
- Enter a subnetwork IP address range and mask. Click **OK** to return to the **Remote IP Networks (Figure 6-36)**, which now shows the new IP address and mask.

9. The **Configuration Summary page for Internet and inter-office connections (Figure 6-38)** shows a summary of all the router configuration parameters you have entered, as well as standard parameters in the configuration.

Figure 6-38: Configuration Summary page for Internet and inter-office connections


Configuration Summary - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Links
AR140(U) Router
Configuration Summary
Version 1.9.1c Serial No.6835251
The wizard has created the following configuration. To change the configuration, select the Back button to go back to the relevant pages. To test the Internet and Office connections select the test connection button. When you are finished select the End Wizard button to save the configuration.
SYSTEM INFORMATION
ETHERNET CONNECTION
PHONE & ISDN INFORMATION
INTERNET CONNECTION
INTEROFFICE CONNECTION
Model: AR140(U)
Software Version: 1.9.1c
Date & Time: 22-Mar-2000 14:48:53
Serial Number: 6835251
Territory: Europe
Allied Telesyn
BACK
TEST CONNECTIONS
END WIZARD

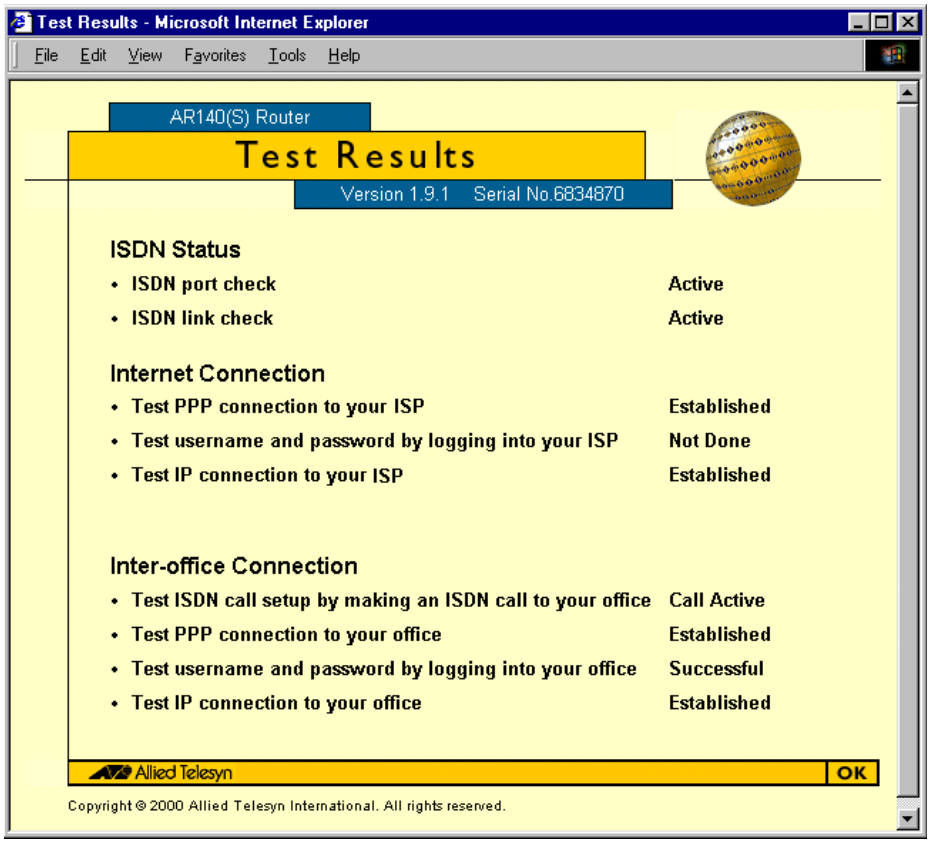
The wizard creates a standard configuration using the parameters you have entered. You can change these and other parameters from the **Main Menu** page in the future if you wish.

- If you wish to change any of the parameters you have entered, use the **Back** button at the bottom of the page to go back to the page you want to change.
- If you are satisfied with the configuration and want to test your Internet connection, click **Test Connection**. The **Test Results page (Figure 6-39)** opens to show you a summary of the connection test results.
- When you are satisfied with the configuration, click **End Wizard** to save the configuration. The **AR100 Main Menu page (Figure 4-2)** opens.
- Put a bookmark in your web browser at this page so that you can easily reach it in the future.

Note: You have gained access to the router to configure it by using the factory default password for the router's manager account. To limit unauthorised access to the router and its configuration, we recommend that you change this password as soon as you have configured the router for the first time. Go to "*Changing system information*" on page 7-2 of *Chapter 7, Changing Your Configuration*.

10. The **Test Results page (Figure 6-39)** shows a summary of which tests have been performed and the results. It takes a few seconds to run the tests.

Figure 6-39: Test Results page


Test Results - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Test Results
Version 1.9.1 Serial No.6834870
ISDN Status
• ISDN port check Active
• ISDN link check Active
Internet Connection
• Test PPP connection to your ISP Established
• Test username and password by logging into your ISP Not Done
• Test IP connection to your ISP Established
Inter-office Connection
• Test ISDN call setup by making an ISDN call to your office Call Active
• Test PPP connection to your office Established
• Test username and password by logging into your office Successful
• Test IP connection to your office Established
Allied Telesyn
OK
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- If all the tests succeeded, click **OK** to return to the **Configuration Summary page for Internet and inter-office connections (Figure 6-38)**.
- If any tests failed, note the test results (for instance, by printing out the **Test Results** page) and see *"Connection test fails"* on page 10-13. Click **OK** to return to the **Configuration Summary page for Internet and inter-office connections (Figure 6-38)**.

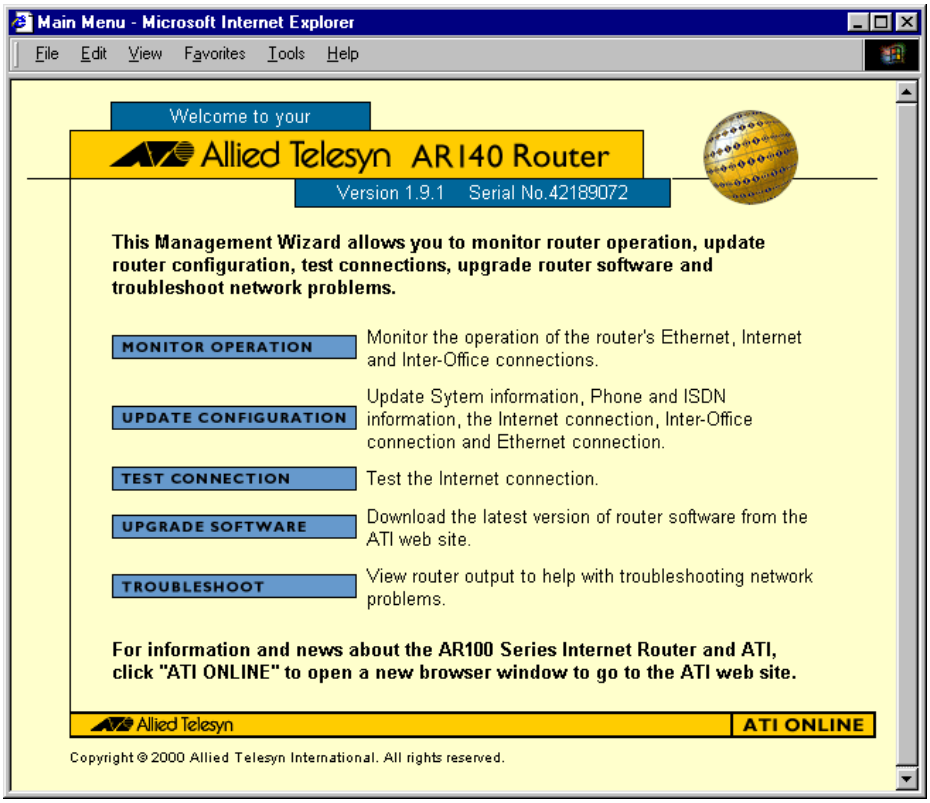
Chapter 7

Changing Your Configuration

Once you have configured your router for the first time using the AR100 Configuration Wizard you can add or remove connections, or change the router's configuration.

1. The **AR100 Main Menu page (Figure 7-1)** has links to all the AR100 Management Wizard utilities.

Figure 7-1: AR100 Main Menu page


Main Menu - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Welcome to your
Allied Telesyn AR140 Router
Version 1.9.1 Serial No.42189072
This Management Wizard allows you to monitor router operation, update router configuration, test connections, upgrade router software and troubleshoot network problems.
MONITOR OPERATION
Monitor the operation of the router's Ethernet, Internet and Inter-Office connections.
UPDATE CONFIGURATION
Update Sytem information, Phone and ISDN information, the Internet connection, Inter-Office connection and Ethernet connection.
TEST CONNECTION
Test the Internet connection.
UPGRADE SOFTWARE
Download the latest version of router software from the ATI web site.
TROUBLESHOOT
View router output to help with troubleshooting network problems.
For information and news about the AR100 Series Internet Router and ATI, click "ATI ONLINE" to open a new browser window to go to the ATI web site.
Allied Telesyn
ATI ONLINE
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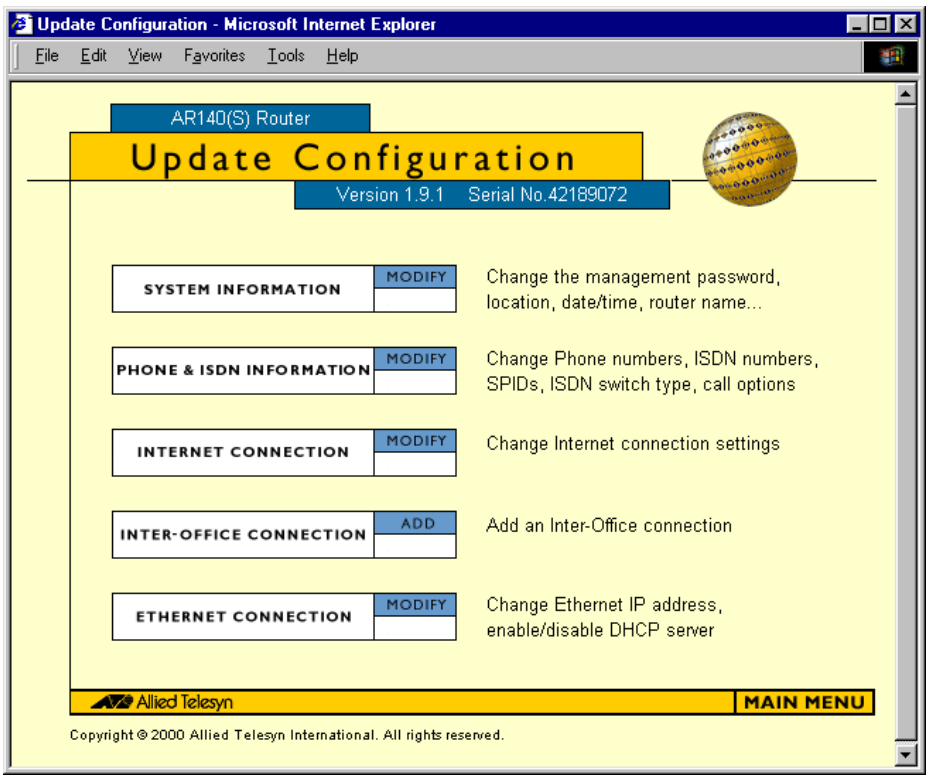
- Click on the **Update Configuration** button to open the **Update Configuration page (Figure 7-2)**.

2. The **Update Configuration page (Figure 7-2)**, gives you access to configure all the AR100's connections.

Figure 7-2: Update Configuration page



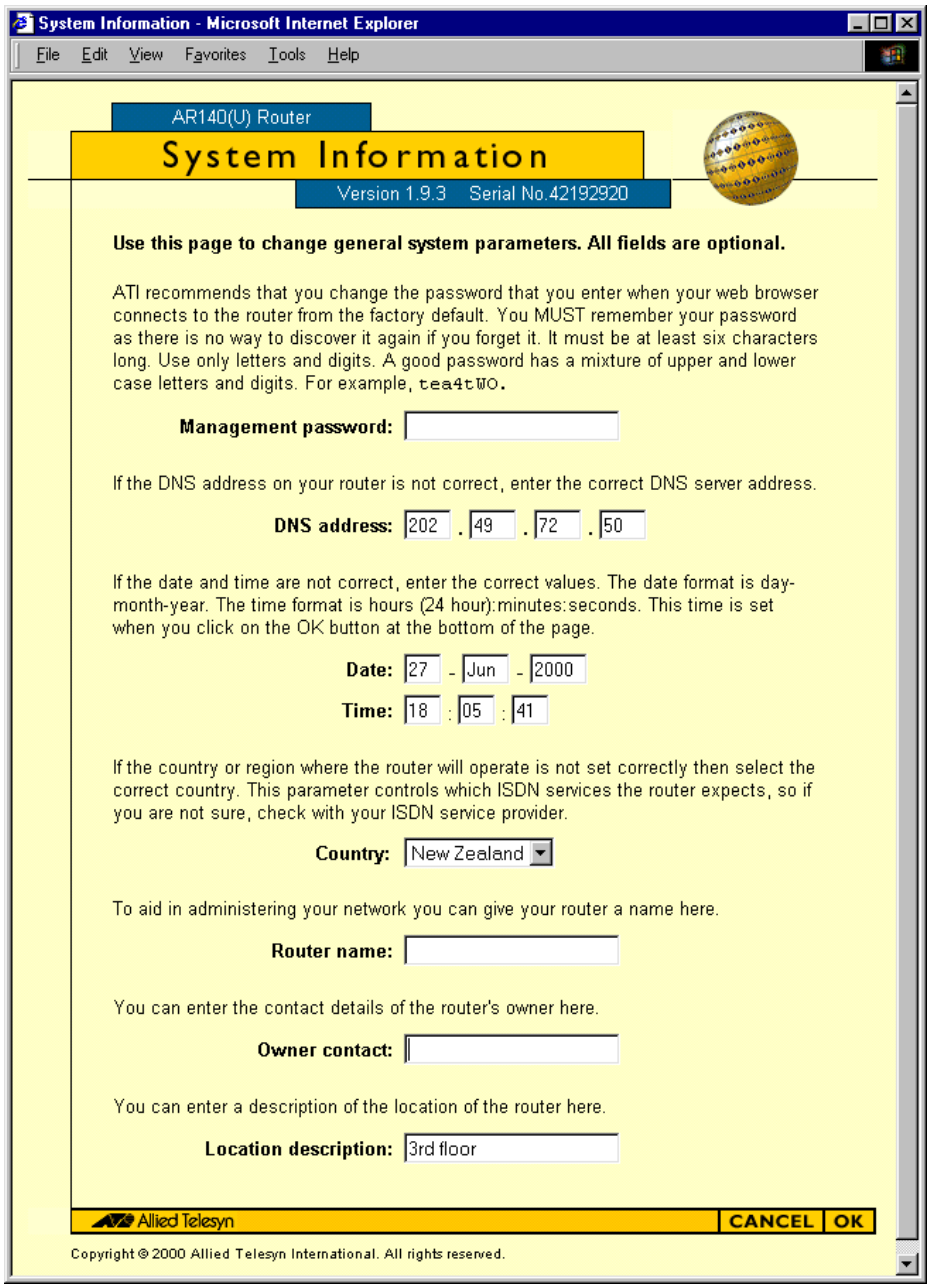
- To modify any existing information, click **Modify** for the type of information you want to change.
- To add an Internet or inter-office connection, click **Add**.
- To remove an Internet or inter-office connection, click Remove. There must be at least one configured connection at all times. This page will not allow you to remove the last one.

Changing system information

We recommend that you change the password that gives access to the router itself and its configuration.

In the **Update Configuration page (Figure 7-2)**, click on the **System Information/Modify** button. The **System Information page (Figure 7-3)** opens. In this page you can change any of the system information. The country selected is used to make the correct configuration parameters for your country available in these wizard pages. All the other parameters are optional.

Figure 7-3: System Information page


System Information - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(U) Router
System Information
Version 1.9.3 Serial No.42192920
Use this page to change general system parameters. All fields are optional.
ATI recommends that you change the password that you enter when your web browser connects to the router from the factory default. You MUST remember your password as there is no way to discover it again if you forget it. It must be at least six characters long. Use only letters and digits. A good password has a mixture of upper and lower case letters and digits. For example, tea4tWO.
Management password:
If the DNS address on your router is not correct, enter the correct DNS server address.
DNS address: 202 . 49 . 72 . 50
If the date and time are not correct, enter the correct values. The date format is day-month-year. The time format is hours (24 hour):minutes:seconds. This time is set when you click on the OK button at the bottom of the page.
Date: 27 - Jun - 2000
Time: 18 : 05 : 41
If the country or region where the router will operate is not set correctly then select the correct country. This parameter controls which ISDN services the router expects, so if you are not sure, check with your ISDN service provider.
Country: New Zealand
To aid in administering your network you can give your router a name here.
Router name:
You can enter the contact details of the router's owner here.
Owner contact:
You can enter a description of the location of the router here.
Location description: 3rd floor
Allied Telesyn
CANCEL OK
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- Enter a new password. REMEMBER THIS PASSWORD. WRITE IT DOWN AND KEEP IT IN A SECURE PLACE.

Caution: The router's password is encrypted as soon as you save it, so if you forget or lose this password, there is no way to retrieve it. If this happens you will be unable to reach your router's configuration or other utilities.

- Make sure the correct Domain Name Server (DNS) address for your router is entered. The DNS server translates IP domain names, for instance *alliedtelesyn.co.nz*, to IP addresses, for instance 123.156.78.9, so that data is sent to the right address.
- Make sure the correct country is selected.
- You can enter a unique router name for administering your network.
- You can enter your owner contact details.

- If the date or time need adjusting, enter the correct date (Day-Month-Year) and time (Hours:Minutes:Seconds, 24 hour format). This will be set when you click the **OK** button, not when you type in the time values. Enter or check the time values just before you click **OK** to save the changes.
- To return to the **Update Configuration page (Figure 7-2)** without saving changes to the system information, click the **Cancel** button.
- Click **OK** to save the changes and return to the **Update Configuration page (Figure 7-2)**. If you have changed the password, the **Enter Network Password dialog (Figure 4-1)** appears. Enter the username and the new password, and click **OK**. The **Update Configuration page (Figure 7-2)** opens.

Changing phone and ISDN information

You can change or add information about your phone connections if you have an AR140 with phone ports and your ISDN connection, or change the standard configuration to enable other advanced features. If you have an AR130 without phone ports, this will be an ISDN Information page only. Information about your ISDN service is available from your ISDN service provider.

In the **Update Configuration page (Figure 7-2)**, click on the **ISDN Information/ Modify** button to open the **System Information page (Figure 7-3)**.

Phone setup

If you have an AR140 router with phone ports, you can add or change the phone numbers that will ring the extensions connected to each phone port. If you are in North America your ISDN service may support call waiting.

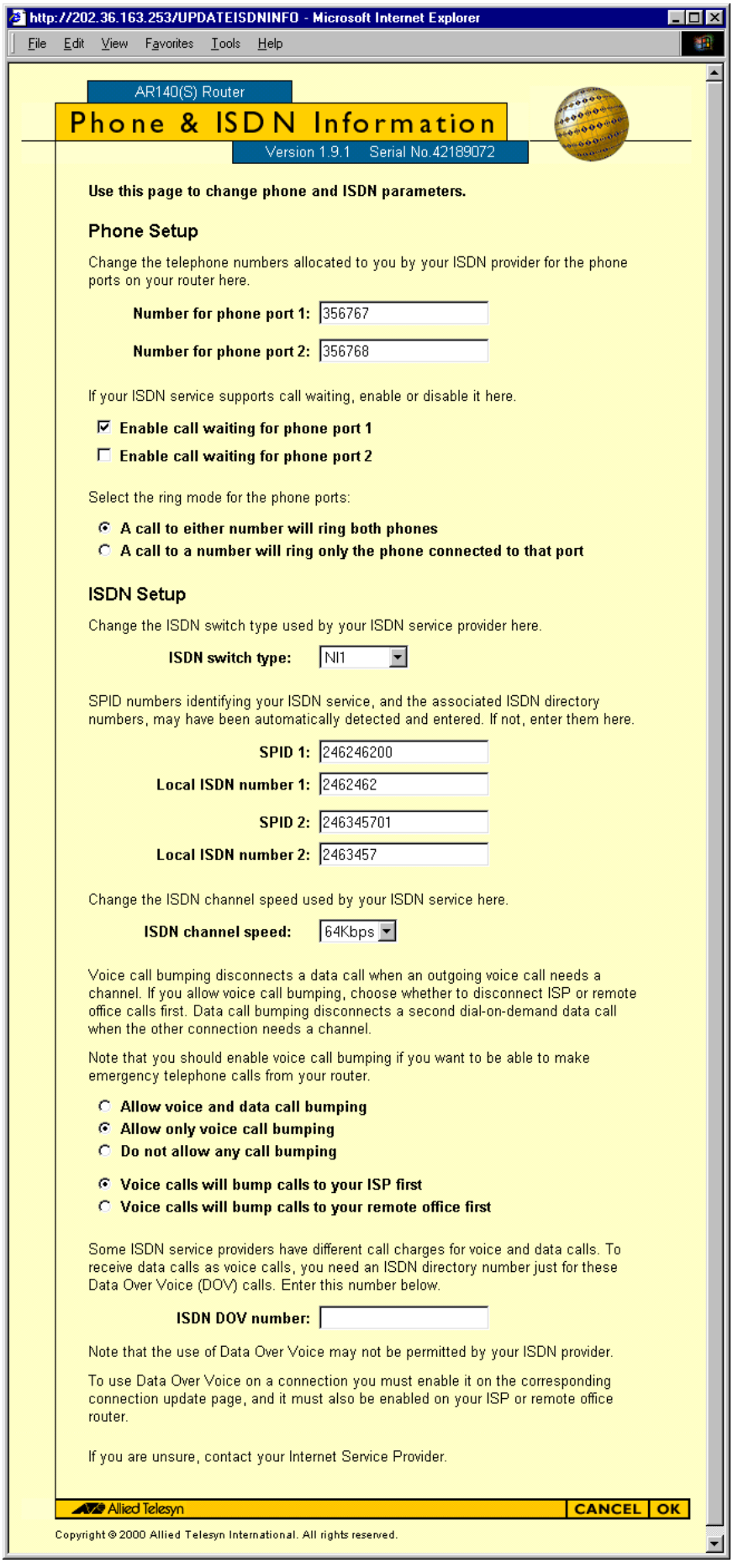
- Add or change the directory numbers
- Choose whether both phone extensions ring when either is called, or whether only the extension called rings.
- In North America, choose whether or not to enable call waiting on each phone port.

ISDN setup

If you are in North America, configuration information is required about the ISDN switch type that your ISDN service connects you to, SPIDs to identify your ISDN service, and the associated ISDN phone or directory numbers. For most of the rest of the world these are not required.

- If necessary, change the ISDN switch type, add, change or remove the SPIDs and associated directory or phone numbers, or change the channel speed.

Figure 7-4: Phone and ISDN Information page


http://202.36.163.253/UPDATEISDNINFO - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Phone & ISDN Information
Version 1.9.1 Serial No.42189072
Use this page to change phone and ISDN parameters.
Phone Setup
Change the telephone numbers allocated to you by your ISDN provider for the phone ports on your router here.
Number for phone port 1: 356767
Number for phone port 2: 356768
If your ISDN service supports call waiting, enable or disable it here.
Enable call waiting for phone port 1
Enable call waiting for phone port 2
Select the ring mode for the phone ports:
A call to either number will ring both phones
A call to a number will ring only the phone connected to that port
ISDN Setup
Change the ISDN switch type used by your ISDN service provider here.
ISDN switch type: NI1
SPID numbers identifying your ISDN service, and the associated ISDN directory numbers, may have been automatically detected and entered. If not, enter them here.
SPID 1: 246246200
Local ISDN number 1: 2462462
SPID 2: 246345701
Local ISDN number 2: 2463457
Change the ISDN channel speed used by your ISDN service here.
ISDN channel speed: 64Kbps
Voice call bumping disconnects a data call when an outgoing voice call needs a channel. If you allow voice call bumping, choose whether to disconnect ISP or remote office calls first. Data call bumping disconnects a second dial-on-demand data call when the other connection needs a channel.
Note that you should enable voice call bumping if you want to be able to make emergency telephone calls from your router.
Allow voice and data call bumping
Allow only voice call bumping
Do not allow any call bumping
Voice calls will bump calls to your ISP first
Voice calls will bump calls to your remote office first
Some ISDN service providers have different call charges for voice and data calls. To receive data calls as voice calls, you need an ISDN directory number just for these Data Over Voice (DOV) calls. Enter this number below.
ISDN DOV number:
Note that the use of Data Over Voice may not be permitted by your ISDN provider.
To use Data Over Voice on a connection you must enable it on the corresponding connection update page, and it must also be enabled on your ISP or remote office router.
If you are unsure, contact your Internet Service Provider.
Allied Telesyn
CANCEL
OK
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Call bumping

Voice call bumping disconnects a data call when both ISDN B channels are in use, to make room for an outgoing call. If you have both Internet and inter-office connections, you can specify which data connection should be disconnected first for an outgoing voice call.

If you have both Internet and inter-office connections, data call bumping allows a new outgoing data call to be made even if both B channels are being used for the other connection, by disconnecting the second demand call.

Note: If you want calls to emergency phone numbers to override data calls to the Internet or remote office, you must enable voice call bumping.

- If you want phone calls to disconnect data calls, select Enable voice call bumping. Choose whether you want data calls to the Internet or your remote office to be disconnected first for voice calls.
- Choose whether or not to enable Data call bumping.

Data over voice

The Data Over Voice (DOV) feature sends data calls over the ISDN network as though they are voice calls. For those ISDN service providers that have lower charges for voice calls than for data calls, this feature can give reduced ISDN call charges. If you are to receive DOV calls, you must have an ISDN directory number to be used only by DOV calls entered on this page. DOV must be enabled on the **Internet Connection page (Figure 7-5)** and/or the **Inter-Office Connection page (Figure 7-6)**. If you are to send or receive DOV calls, the ISP or remote office router must also be configured for Data Over Voice calls.

- Enter the ISDN directory number for Voice Over Data calls.

Note: Depending on where you are located and your ISDN service, the use of the Data Over Voice feature may not be permitted.

Save changes

- Click **OK** to save these changes and return to the **Update Configuration page (Figure 7-2)**.
- To return to the **Update Configuration page (Figure 7-2)** without saving changes to the phone and ISDN information, click the **Cancel** button.

Adding or changing an Internet connection

Your Internet Service Provider (ISP) will have given you account information that the router needs to connect to the Internet through your ISP.

To add a new Internet connection, click on the **Internet Connection/Add** button in the **Update Configuration page (Figure 7-2)**. The **Internet Connection page (Figure 7-5)** opens.

To modify the configuration for an existing Internet connection, click on the **Internet Connection/Modify** button in the **Update Configuration page (Figure 7-2)**. The **Internet Connection page (Figure 7-5)** opens.

The ISDN number is the phone number or directory number that your router dials to call your ISP. If your Internet connection only uses a leased line, then you may not need to enter this information. Most ISPs dynamically allocate IP addresses, but some allocate fixed IP addresses.

- Enter or modify your ISP ISDN number, username and password. Select account information on the I**nternet Connection** page.
- Select Dynamic IP address or select Fixed IP address and enter the address.

Activate a second ISDN call on demand

The AR100 can make a second ISDN call to the Internet to increase the speed of your connection when the demand for it rises above a threshold. It will automatically disconnect such a call when the demand falls below a lower threshold value for a specified time. You can use the default threshold and time values or change these values to tune your connection. You will also need to enter the ISDN number for the second call to connect to your ISP.

Note: To determine whether data or voice Dial-on-Demand calls will be dropped for higher priority calls for an AR140 with phone ports, see Call bumping on the **Phone and ISDN Information page (Figure 7-4)**.

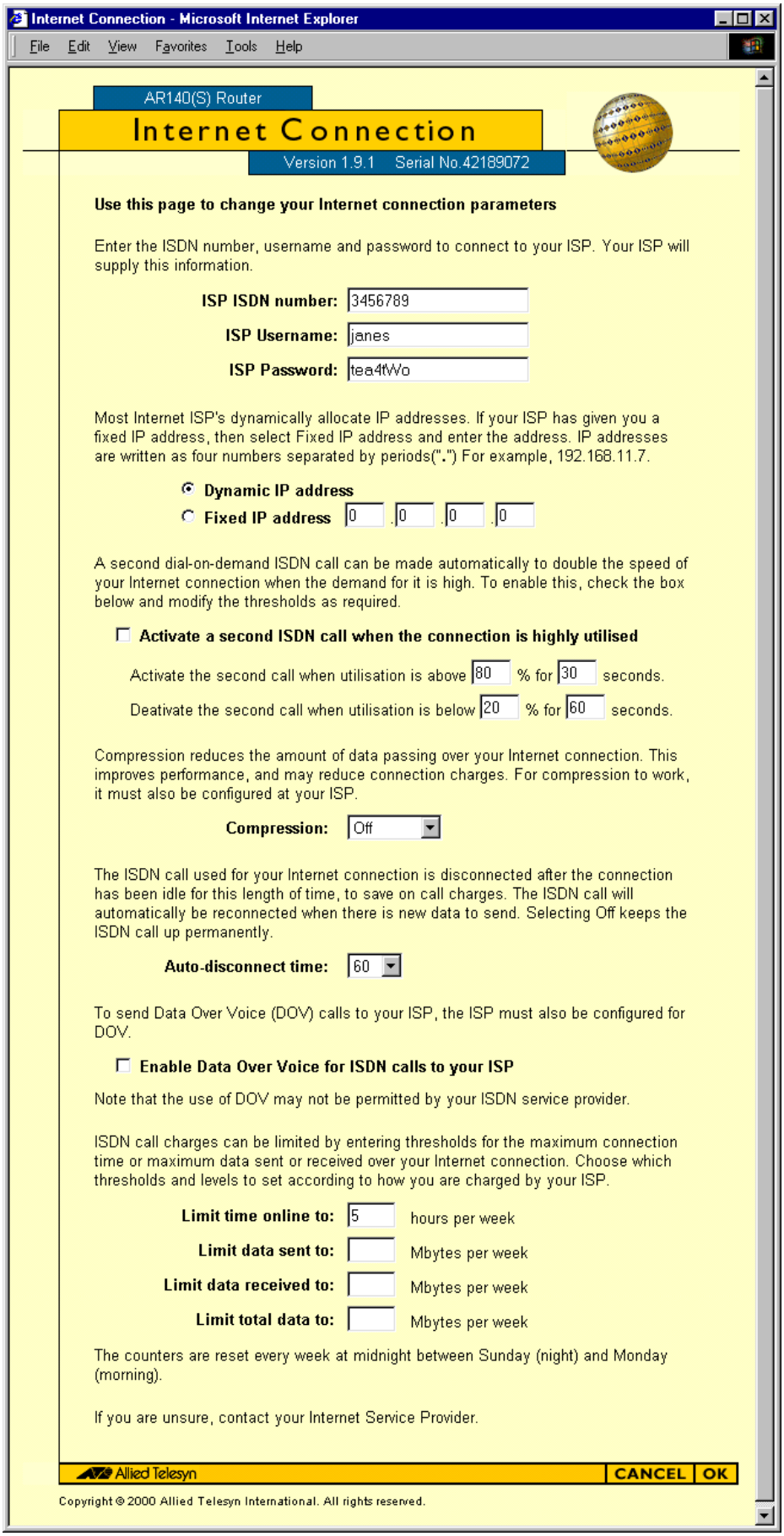
- Choose whether or not to activate a second ISDN Dial-on-Demand call when the demand on your Internet connection is high.
- If necessary, modify the threshold values.
- Enter the ISP's ISDN number for the second call.

Data compression

Stac LZS compression reduces the amount of data passing over your Internet connection if it is also supported by your ISP. It improves performance and may reduce call charges,

- If necessary, modify the Compression setting.

Figure 7-5: Internet Connection page


Internet Connection - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Internet Connection
Version 1.9.1 Serial No.42189072
Use this page to change your Internet connection parameters
Enter the ISDN number, username and password to connect to your ISP. Your ISP will supply this information.
ISP ISDN number: 3456789
ISP Username: janes
ISP Password: tea4tWo
Most Internet ISP's dynamically allocate IP addresses. If your ISP has given you a fixed IP address, then select Fixed IP address and enter the address. IP addresses are written as four numbers separated by periods(".") For example, 192.168.11.7.
Dynamic IP address
Fixed IP address 0 .0 .0 .0
A second dial-on-demand ISDN call can be made automatically to double the speed of your Internet connection when the demand for it is high. To enable this, check the box below and modify the thresholds as required.
Activate a second ISDN call when the connection is highly utilised
Activate the second call when utilisation is above 80 % for 30 seconds.
Deativate the second call when utilisation is below 20 % for 60 seconds.
Compression reduces the amount of data passing over your Internet connection. This improves performance, and may reduce connection charges. For compression to work, it must also be configured at your ISP.
Compression: Off
The ISDN call used for your Internet connection is disconnected after the connection has been idle for this length of time, to save on call charges. The ISDN call will automatically be reconnected when there is new data to send. Selecting Off keeps the ISDN call up permanently.
Auto-disconnect time: 60
To send Data Over Voice (DOV) calls to your ISP, the ISP must also be configured for DOV.
Enable Data Over Voice for ISDN calls to your ISP
Note that the use of DOV may not be permitted by your ISDN service provider.
ISDN call charges can be limited by entering thresholds for the maximum connection time or maximum data sent or received over your Internet connection. Choose which thresholds and levels to set according to how you are charged by your ISP.
Limit time online to: 5 hours per week
Limit data sent to: Mbytes per week
Limit data received to: Mbytes per week
Limit total data to: Mbytes per week
The counters are reset every week at midnight between Sunday (night) and Monday (morning).
If you are unsure, contact your Internet Service Provider.
Allied Telesyn
CANCEL OK
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Keeping calls up semi-permanently

The AR100 supports semi-permanent ISDN calls. This means that an ISDN call can be configured to remain connected indefinitely, and to be automatically reconnected if it is disconnected for any reason. If you subscribe to the OnRamp Express service in Australia, outgoing calls on this line are charged at a lower rate than regular dial-on-demand ISDN calls.

If you subscribe to OnRamp Express:

- Select **Keep call up semi-permanently.**
- Set the **Auto-disconnect time** described below to **Off**.

Caution for Australia only: Only outgoing calls on the OnRamp Express service are charged at the lower rate. Incoming calls are charged at the higher casual rate, even if the calls are kept up semi-permanently, potentially leading to high ISDN call charges.

Note for Australia only: If you have an AR140 with voice ports, and want to use telephones or other devices connected to these, do not make calls to both the Internet and your remote office semi-permanent. If you do, there will be no channels available for phone calls.

Auto-disconnect time

If you are using ISDN Dial-on-Demand, your Internet connection will by default automatically be disconnected if it is unused for more than 60 seconds, to save call charges. It will automatically be reconnected when there is new data to send. You can change the value of the Auto-disconnect timer, or select Off to keep the ISDN call connected permanently (for instance, if you subscribe to OnRamp Express in Australia).

- If necessary, modify the Auto-disconnect timer.

Data over voice

The Data Over Voice (DOV) feature sends data calls over the ISDN network as though they are voice calls. For those ISDN service providers that have lower charges for voice calls than for data calls, this feature can give reduced ISDN call charges. If you are to send DOV calls, the ISP must also be configured for DOV.

- Enable or disable Data Over Voice calls.

Caution: Depending on which country you are located in and the ISDN service you use, using the Data Over Voice feature may not be permitted.

Internet connection limits

You can limit the use of your Internet connection. Depending on how your ISP charges for your Internet connection, you can choose to limit the connection time, or the amount of data sent or received, or the total data sent and received over your Internet connection. When the limits are exceeded, the router will

not connect to the Internet again until the counters for these limits are reset. If no limits are entered here, the router will never automatically disconnect the Internet connection. The counters are automatically reset every week at midnight between Sunday night and Monday morning. You can manually reset them at any time on the **Monitoring page (Figure 9-2)**.

To see the connection time or data transmission remaining for the week, see "*Monitor router operation*" on page 9-2.

Save changes

- Click **OK** to save these changes and return to the **Update Configuration page (Figure 7-2)**.
- To return to the **Update Configuration page (Figure 7-2)** without saving changes to the Internet connection configuration, click the **Cancel** button.

Removing an Internet connection

1. To remove an Internet connection that is no longer needed, click on the **Internet Connection/ Remove** button in the **Update Configuration page (Figure 7-2)**. The Internet connection is removed from the configuration, and a **Connection Deleted** page opens.
2. Click **OK** to return to the **Update Configuration page (Figure 7-2)**.

Changing an inter-office connection

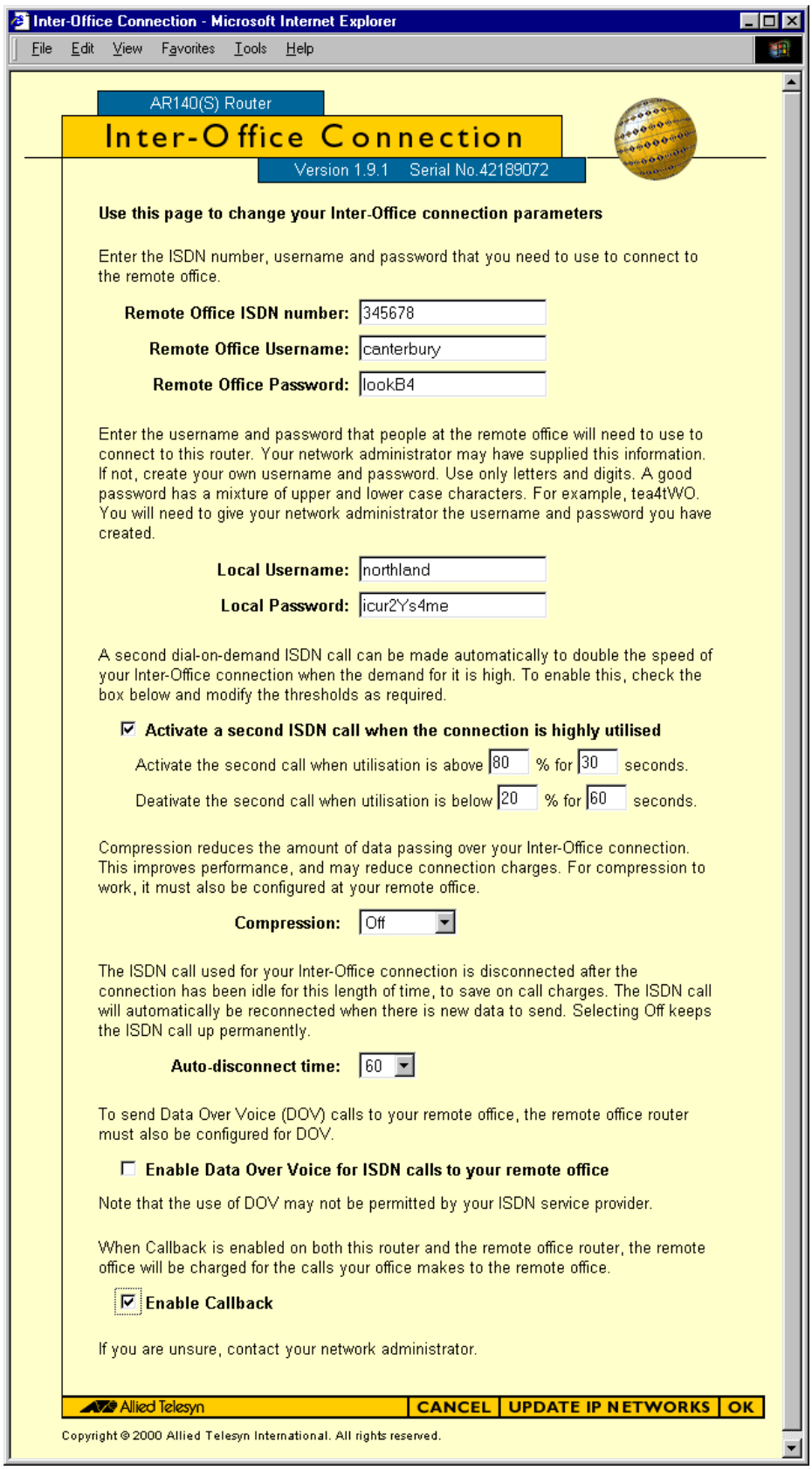
To add a new inter-office connection, click on the **Inter-Office Connection/Add** button in the **Update Configuration page (Figure 7-2)**. The **Inter-Office Connection page (Figure 7-6)** opens.

To modify the configuration for an existing inter-office connection, click on the **Inter-Office Connection/Modify** button in the **Update Configuration page (Figure 7-2)**. The **Inter-Office Connection page (Figure 7-6)** opens.

The router needs information about the ISDN number, the username and the password it will use to contact the remote office. The network administrator at the remote office will supply you with this information. The router also needs a local user name and password that the remote office will use to contact this office. Your network administrator may supply you with this information. If not, create your own username and password. Use only letters and digits. Your network administrator at the remote office needs this information, so that it can be entered into the remote office router's configuration. This local username and password is used when the remote office router contacts your office.

- Enter or modify the ISDN number, the username and the password for connecting to the remote office.
- Enter or modify the local username and password for the remote office to connect to your office. If you have created your own local username and password, give them to the network administrator at the remote office.

Figure 7-6: Inter-Office Connection page


Inter-Office Connection - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Inter-Office Connection
Version 1.9.1 Serial No.42189072
Use this page to change your Inter-Office connection parameters
Enter the ISDN number, username and password that you need to use to connect to the remote office.
Remote Office ISDN number: 345678
Remote Office Username: canterbury
Remote Office Password: lookB4
Enter the username and password that people at the remote office will need to use to connect to this router. Your network administrator may have supplied this information. If not, create your own username and password. Use only letters and digits. A good password has a mixture of upper and lower case characters. For example, tea4tWO. You will need to give your network administrator the username and password you have created.
Local Username: northland
Local Password: icur2Ys4me
A second dial-on-demand ISDN call can be made automatically to double the speed of your Inter-Office connection when the demand for it is high. To enable this, check the box below and modify the thresholds as required.
Activate a second ISDN call when the connection is highly utilised
Activate the second call when utilisation is above 80 % for 30 seconds.
Deativate the second call when utilisation is below 20 % for 60 seconds.
Compression reduces the amount of data passing over your Inter-Office connection. This improves performance, and may reduce connection charges. For compression to work, it must also be configured at your remote office.
Compression: Off
The ISDN call used for your Inter-Office connection is disconnected after the connection has been idle for this length of time, to save on call charges. The ISDN call will automatically be reconnected when there is new data to send. Selecting Off keeps the ISDN call up permanently.
Auto-disconnect time: 60
To send Data Over Voice (DOV) calls to your remote office, the remote office router must also be configured for DOV.
Enable Data Over Voice for ISDN calls to your remote office
Note that the use of DOV may not be permitted by your ISDN service provider.
When Callback is enabled on both this router and the remote office router, the remote office will be charged for the calls your office makes to the remote office.
Enable Callback
If you are unsure, contact your network administrator.
Allied Telesyn
CANCEL
UPDATE IP NETWORKS
OK
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Making calls semi-permanent

The AR 100 supports semi-permanent ISDN calls. This means that an ISDN call can be configured to remain connected indefinitely, and to be automatically reconnected if it is disconnected for any reason. If you subscribe to the OnRamp Express service in Australia, outgoing calls on this line are charged at a lower rate than regular dial-on-demand ISDN calls.

If you subscribe to OnRamp Express:

- Select **Keep call up semi-permanently.**
- Set the **Auto-disconnect time** described below to **Off**.
- Tell the network administrator at the remote office that you have lower call charges, so that they can configure their router only to accept incoming data calls from your office, and not to send outgoing data calls to your office.

Caution for Australia only: Only outgoing calls on the OnRamp Express service are charged at the lower rate. Incoming calls are charged at the higher casual rate, even if the calls are kept up semi-permanently, potentially leading to high ISDN call charges.

Note for Australia only: If you have an AR140 with voice ports, and want to use telephones or other devices connected to these, do not make calls to both the Internet and your remote office semi-permanent. If you do, there will be no channels available for phone calls.

Activate a second ISDN call on demand

The AR100 can make a second ISDN call to your remote office to increase the speed of your connection when the demand for it rises above a threshold. It will automatically disconnect such a Dial-on-Demand call when the demand falls below a lower threshold value for a specified time. You can use the default threshold and time values or change these values to tune your connection. You will also need to enter the ISDN number for the second call to connect to your remote office.

Note: To determine whether data or voice Dial-on-Demand calls will be dropped for higher priority calls for an AR140 with phone ports, see Call bumping on the **Phone and ISDN Information page (Figure 7-4)**.

- Choose whether or not to activate a second ISDN Dial-on-Demand call when the demand on your inter-office connection is high.
- If necessary, modify the threshold values.
- Enter the remote office ISDN number.

Data compression

Stac LZS compression reduces the amount of data passing over your inter-office connection. It improves performance and may reduce call charges.

- If necessary, modify the Compression setting.

Auto-disconnect time

If you are using ISDN Dial-on-Demand, your interoffice connection will by default automatically be disconnected if it is unused for more than 60 seconds, to save call charges. It will automatically be reconnected when there is new data to send. You can change the value of the Auto-disconnect timer, or select Off to keep the ISDN call connected permanently.

- If necessary, modify the Auto-disconnect timer.

Data over voice

The Data Over Voice (DOV) feature sends data calls over the ISDN network as though they are voice calls. For those ISDN service providers that have lower charges for voice calls than for data calls, this feature can give reduced ISDN call charges. If you are to receive DOV calls, you must have an ISDN directory number to be used only by DOV calls, entered in the **Phone and ISDN Information page (Figure 7-4)**. If you are to send or receive DOV calls, the remote office must also be configured for Data Over Voice calls.

- Enable or disable Data Over Voice calls.

Caution: Depending on which country you are located in and the ISDN service you use, using the Data Over Voice feature may not be permitted.

Callback

The AR100 supports callback for outgoing calls. Beyond the small charge for the initial ISDN call, this allows a remote site to reverse the call charges to a central office, for central billing of ISDN calls. If you are unsure about whether this feature is also supported by your remote office, contact your network administrator at the remote office.

- Choose whether or not to enable callback.

Update IP networks

If you have both Internet and inter-office connections, your router must be configured with the correct IP address ranges and masks at the remote office.

- To check these click the **Update IP Networks** button at the bottom of the page. The **Remote IP Networks** page opens.

Data for destinations within the IP address ranges specified here are sent over the inter-office connection. Data to all other destinations is sent over the Internet connection.

- To add a new subnetwork click the **Add IP Network** button.
- To remove a subnetwork click the **Remove button** beside the subnetwork you want to remove.

Save changes

- Click the OK button to save these changes and return to the **Update Configuration page (Figure 7-2)**.

- To return to the **Update Configuration page (Figure 7-2)** without saving any changes to the inter-office connection configuration, click the **Cancel** button.

Removing an inter-office connection

1. To remove an inter-office connection that is no longer needed, click on the **Inter-Office Connection/Remove** button in the **Update Configuration page (Figure 7-2)**. The Internet connection is removed from the configuration, and a **Connection Deleted** page opens.
2. Click **OK** to return to the **Update Configuration page (Figure 7-2)**.

Changing your Ethernet IP address

When the router was connected and configured for the first time, an Ethernet IP address was set up on the router that allowed for successful communication between the PC and the router. We recommend not changing the Ethernet connection configuration if the router and the PC connected to it are communicating successfully. Changing this IP address could cause your connections to fail. Read this section carefully before changing the DHCP server status or the router's Ethernet IP address. If you are unsure, contact your network administrator.

There is a DHCP (Dynamic Host Configuration Protocol) server in the AR100 that you can enable or disable. The DHCP server provides configuration information such as IP addresses, DNS addresses and gateway addresses to devices on the network.

If the DHCP (Dynamic Host Configuration Protocol) server in the router is enabled, then it allocates dynamic Ethernet IP addresses to devices on the LAN including the router itself, and you cannot change these IP addresses unless you disable the DHCP server. The IP address entered in this page determines the range of IP addresses allocated by the router's DHCP server.

Caution: If you must disable the DHCP server, you will need to reconfigure all the other devices on the LAN that receive dynamic configuration from the router's DHCP server to use static IP addresses, or add another DHCP server to the network.

If the router's DHCP server is disabled, then the router's Ethernet IP address is determined by the IP address and mask you enter in the configuration. Communication between the router and the PC you are using to configure it depends on them having Ethernet IP addresses in the same IP subnetwork.

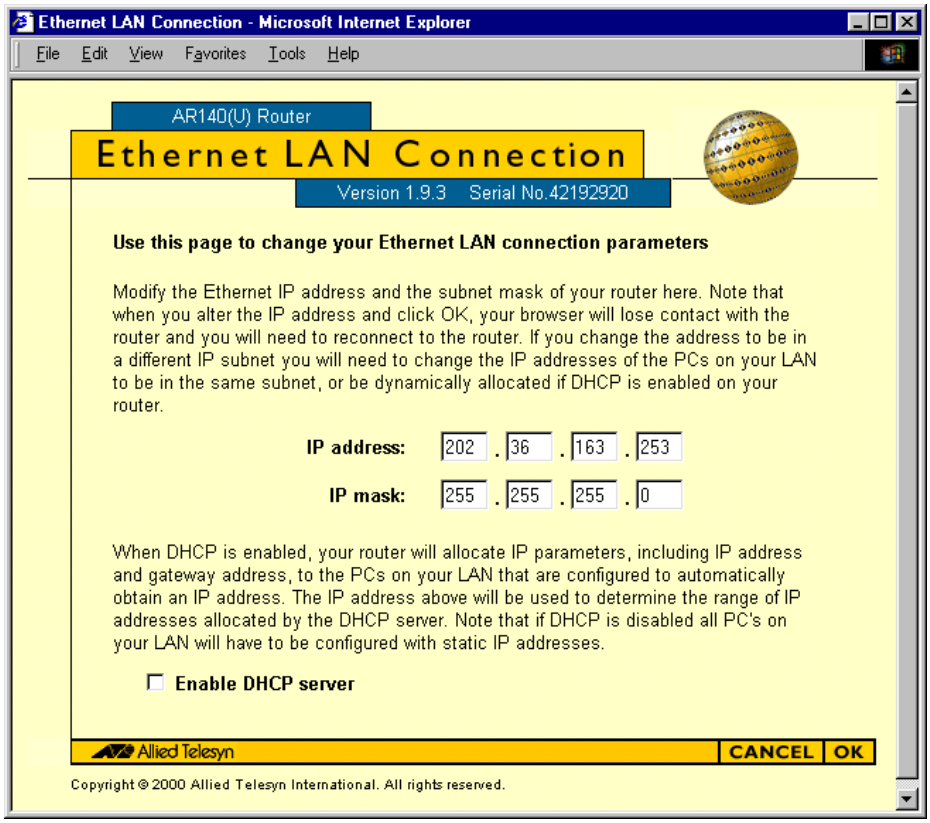
Caution: The router's IP address should generally not be changed, as doing so is likely to disrupt network communications. If you change the router's IP address to an address that is not in the same IP subnetwork as the PC, then they will no longer be able to communicate with each other. Not only will the router not be able to route data to and from the subnetwork that the PC is in, the PC will no longer be able to use the web configuration tool on the router

to change its configuration. Should this happen, the only way for the PC to get access to the router's configuration is to change its own Ethernet IP address so that it is in the same IP subnetwork as the router, and then reboot.

- To change the configuration of the router's Ethernet LAN connection, click on the **Ethernet LAN Connection/Modify** button in the **Update Configuration page (Figure 7-2)**.

  The **Ethernet LAN Connection page (Figure 7-7)** opens, showing the router's Ethernet IP address and mask and whether or not the router's DHCP server is enabled.

Figure 7-7: Ethernet LAN Connection page


Ethernet LAN Connection - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(U) Router
Ethernet LAN Connection
Version 1.9.3 Serial No.42192920
Use this page to change your Ethernet LAN connection parameters
Modify the Ethernet IP address and the subnet mask of your router here. Note that when you alter the IP address and click OK, your browser will lose contact with the router and you will need to reconnect to the router. If you change the address to be in a different IP subnet you will need to change the IP addresses of the PCs on your LAN to be in the same subnet, or be dynamically allocated if DHCP is enabled on your router.
IP address: 202 . 36 . 163 . 253
IP mask: 255 . 255 . 255 . 0
When DHCP is enabled, your router will allocate IP parameters, including IP address and gateway address, to the PCs on your LAN that are configured to automatically obtain an IP address. The IP address above will be used to determine the range of IP addresses allocated by the DHCP server. Note that if DHCP is disabled all PC's on your LAN will have to be configured with static IP addresses.
Enable DHCP server
Allied Telesyn
CANCEL OK
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- If necessary, enable or disable the router's DHCP server
- If necessary, change the router's Ethernet IP address or mask.
- To return to the **Update Configuration page (Figure 7-2)** without saving any changes to the inter-office connection configuration, click **Cancel**.
- To save the changes click **OK**. If you change the IP address, the browser will no longer be connected to the router. You can either enter the new IP address in the browser's address field, or close your browser and find the router again with the AR100 Access Wizard.

Chapter 8

Using Telephony Services

If you have an AR140 Internet Router with phone ports, you can connect up to two telephones, facsimile machines, answering machines or modems. You can use them in the same way that you use them on a regular telephone line. You can use one of these phone ports even when one of the ISDN channels is being used for a data call, and can configure your router to disconnect data calls for outgoing phone calls or not as suits your situation.

The router supports ISDN supplementary services available in North America. These services must be provided on your ISDN line before you can use them on your AR140. Check with your telephone company to confirm whether these services are available to you and if so, if there are any additional charges for them. Typically these features are only supported on your first directory number, in which case you may want to request that they be supported on your second directory number as well. This usually costs more.

The supplementary services supported are:

- Call Waiting - requires Additional Call Offering (ACO) on your ISDN line.
- Conference (3-way) Calling - requires Flexible Calling on your ISDN line
- Implicit Call Transfer - requires Flexible Calling on your ISDN line
- Call Forwarding
- Reminder Ring

Call Waiting

ISDN Call Waiting is supported in North America only, and allows you to place a call on hold while you answer another incoming call on the same directory number. By default call waiting is disabled on both phone ports, but can be enabled on either port from the **Phone and ISDN Information page (Figure 7-4)**.

The Call Waiting feature on your ISDN line works the same way it does on a regular analog line.

- After hearing a call waiting indicator tone, press and release the flash hook button on your telephone. This will put your current call on hold, and answer the incoming call.

- To switch back to the first call, press and release the flash hook button on your telephone.
- To toggle between the two calls, press and release the flash hook button.
- To end your current call when you hear the call waiting tone and answer the waiting call, simply hang-up the phone and wait for the phone to ring. When you answer the call you will be connected to the second call.
- If you have a call on hold, and want to end your current call, hang up the phone and wait for the phone to ring. Pick up the phone to reconnect to the call on hold.
- If you have a call on hold and want to end it, reconnect to the held call by pressing and releasing the flash hook button. Then hang up and wait for the phone to ring to connect you to the other caller.
- If you have a call on hold and the held caller hangs up, you will not hear an indication tone from the network. If you try to reconnect to the held caller by pressing and releasing the flash hook button either you will put the current call on hold (if you don't have Flexible Calling) and you will need to press and release the flash hook button to go back to them, or you will get dial tone (if you have Flexible Calling).
- If you have a call on hold and the current caller hangs up, you can retrieve the held call by pressing and releasing the flash hook button or by hanging the phone up and waiting for it to ring.
- If a call is ringing and another call is received, the call waiting tone will be generated as soon as the first ringing call is answered.

Conference Calling

The Conference Call feature allows you to add a third party to an existing call. You will need Flexible Calling enabled on your ISDN line. A conference call can be initiated by you regardless of whether you initiated the call or received it.

- If you wish to call someone and include them in an existing call, then press the flash hook button and release it to put the existing call on hold and receive a dial tone. Dial the third party's phone number. When you are ready to conference the calls together, press the flash hook button and release it to establish a Three Way Conference Call. You can conference the third party into the call before the third party has answered the call. You can not dial a third party to add them to a conference call until the first call is answered.
- To drop the last call added to the conference call, simply press the flash hook button. The last call that was added to the conference will be dropped.
- To drop yourself from the conference call, hang-up your phone. The two other callers will remain connected and the ISDN network will do an implicit transfer to directly connect the two remaining callers together.
- If the third party's line is busy, press and release the flash hook button once to return to your original caller.

  If the third party doesn't answer, you haven't pressed and released the flash hook button to invoke the conference, and you wish to return to your original caller, press and release the flash hook button twice.

If you have already pressed and released the flash hook button to invoke the conference, press and release the flash hook button once to return to your caller.

- If you dial a number which is unallocated or realise you have dialled a wrong digit, wait until you hear the router's unavailable tone and then press and release the flash hook button once to return to the original caller. If you dial a wrong number, press and release the flash hook button once to drop the call and again to return to the original call.

Call Transfer

Call Transfer allows you to implicitly transfer an active call to a third party. You need Flexible Calling enabled on your ISDN line.

- To transfer an active call to a third party, and announce the call, press and release the flash hook button on your telephone to put the active call on hold and receive a dial tone. Then dial the third party's phone number. Announce the call and press and release the flash hook button to establish a conference call. Hang-up the phone. The ISDN network will do an implicit transfer to directly connect the two callers.
- To transfer an active call to a third party, without announcing the call (known as a blind transfer), press and release the flash hook button on your telephone to put the active call on hold and receive a dial tone. Then dial the third party's phone number. Before the third party answers the call, hang-up the phone. The ISDN network will do an implicit transfer to directly connect the two callers.

Call Forwarding

The AR140 supports Call Forwarding. To use this feature, use the telephone keypad to enter the appropriate dial access codes. Your ISDN service provider will provide you with the access code. In most cases the call forwarding activation code is "*72" and the deactivation code is "*73". While the Call Forwarding feature is active, the forwarded call is announced by a single ring on the telephone from which you entered the access codes. This feature reminds you that your calls are being forwarded.

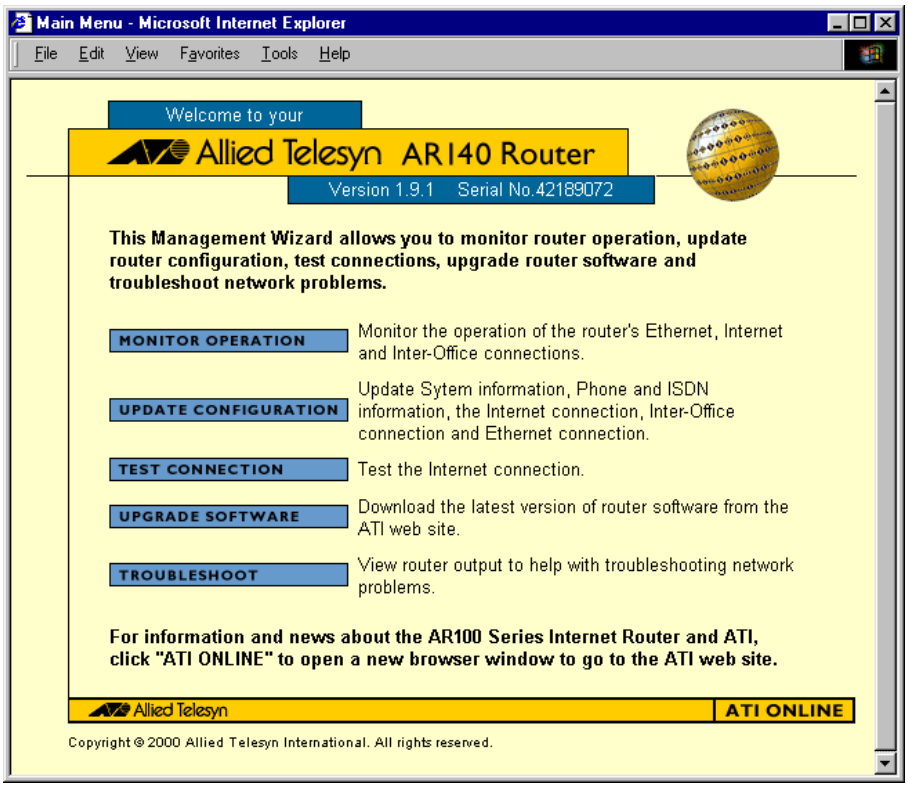
- To activate call forwarding, dial the activate access code (for instance "*72") and then the number you want incoming calls to be forwarded to.
- To deactivate call forwarding, dial the deactivate access code (for instance "*72").

Chapter 9

Accessing Router Utilities

A number of utilities are available from the **AR100 Main Menu page (Figure 9-1)**.

Figure 9-1: AR100 Main Menu page


Main Menu - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Welcome to your
Allied Telesyn AR140 Router
Version 1.9.1 Serial No.42189072
This Management Wizard allows you to monitor router operation, update router configuration, test connections, upgrade router software and troubleshoot network problems.
MONITOR OPERATION
Monitor the operation of the router's Ethernet, Internet and Inter-Office connections.
UPDATE CONFIGURATION
Update Sytem information, Phone and ISDN information, the Internet connection, Inter-Office connection and Ethernet connection.
TEST CONNECTION
Test the Internet connection.
UPGRADE SOFTWARE
Download the latest version of router software from the ATI web site.
TROUBLESHOOT
View router output to help with troubleshooting network problems.
For information and news about the AR100 Series Internet Router and ATI, click "ATI ONLINE" to open a new browser window to go to the ATI web site.
Allied Telesyn
ATI ONLINE
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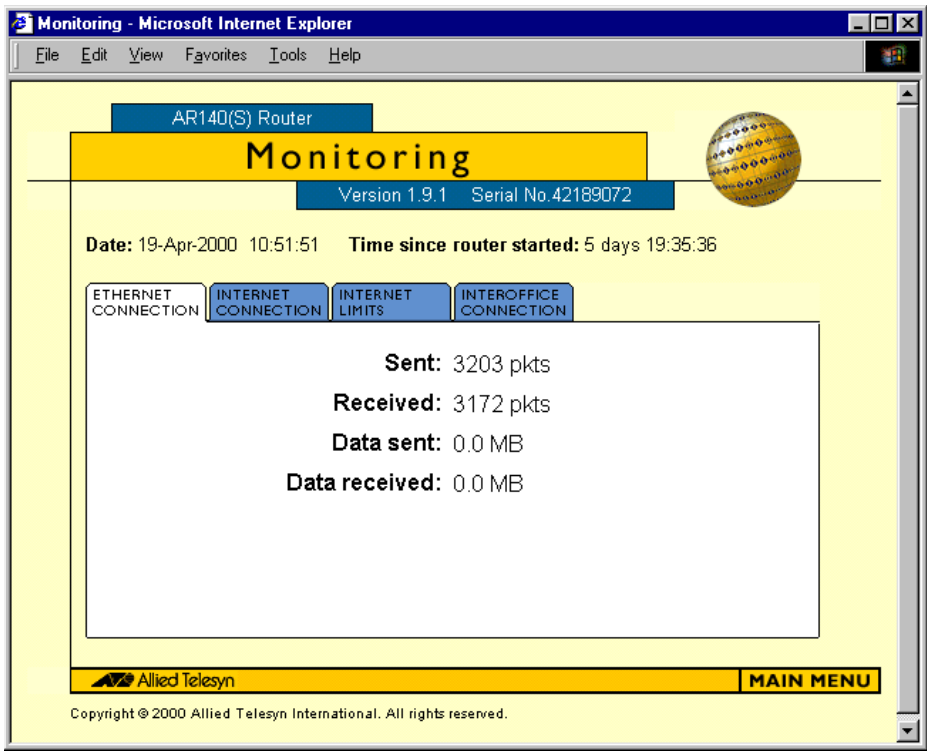
Updating the router configuration is described in *Chapter 7, Changing Your Configuration*. The troubleshooting utility is described in "*Advanced troubleshooting utility*" on page 10-16. The utilities for monitoring operations, testing connections and upgrading software are described in this chapter.

Monitor router operation

The **Monitoring page (Figure 9-2)** shows information about the router's operations. You can use this information to help plan any future changes to your network, to monitor particular events like connections going up and down and for troubleshooting.

1. Click the **Monitor Operation** button in the **AR100 Main Menu page (Figure 9-1)**. The **Monitoring page (Figure 9-2)** opens.

Figure 9-2: Monitoring page



2. Click on the tab for the connection you want to monitor.

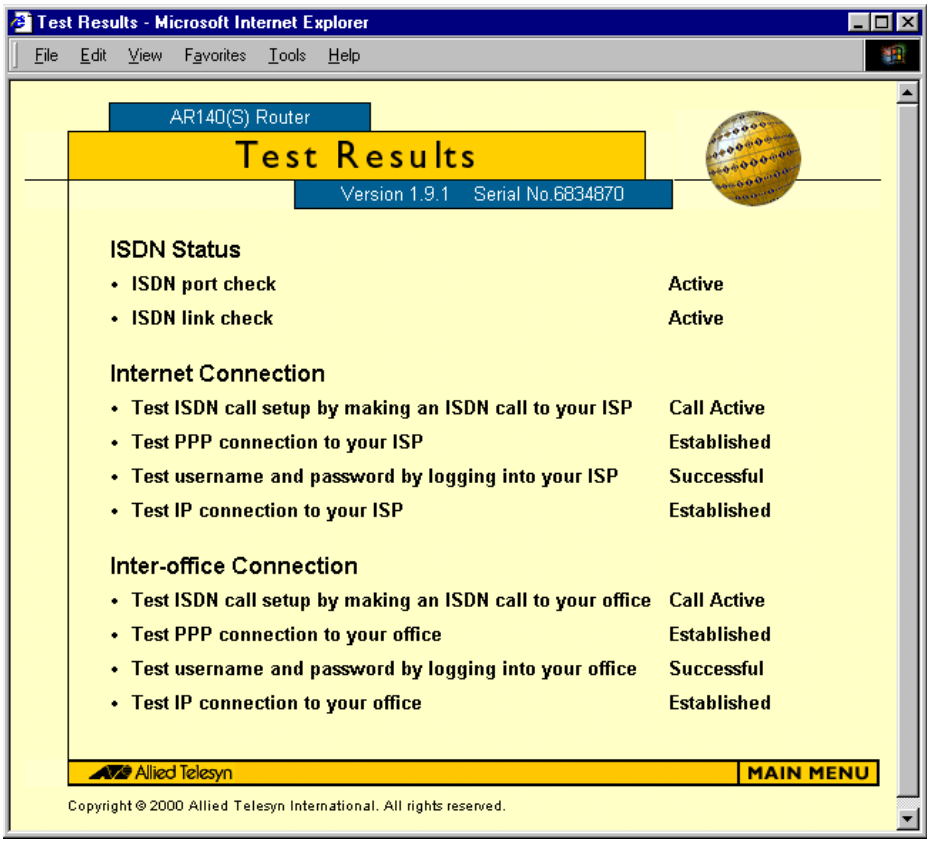
- The **Monitoring Ethernet Connection** tab shows operations data for the Ethernet connection to your local LAN or PC.
- The **Monitoring Internet Connection** tab shows operations data for your Internet connection.
- The **Monitoring Internet Limits** tab shows the configured weekly limits on your Internet connection and the connection time or data transmission remaining till the limits are reached. You can reset the counters for any of these limits here.
- The **Monitoring Inter-Office Connection** tab shows operations data for the connection to your remote office.

Test router connections

The router's Internet and inter-office connections can be tested.

1. Click the **Test Connection** button. The **Test Results page (Figure 9-3)** opens to show you a summary of which connection tests have been performed and the results.

Figure 9-3: Test Results page


Test Results - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Test Results
Version 1.9.1 Serial No.6834870
ISDN Status
• ISDN port check Active
• ISDN link check Active
Internet Connection
• Test ISDN call setup by making an ISDN call to your ISP Call Active
• Test PPP connection to your ISP Established
• Test username and password by logging into your ISP Successful
• Test IP connection to your ISP Established
Inter-office Connection
• Test ISDN call setup by making an ISDN call to your office Call Active
• Test PPP connection to your office Established
• Test username and password by logging into your office Successful
• Test IP connection to your office Established
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If any of the tests fail, the page will advise you about what to do.

2. If all the tests succeeded, click the **Main Menu** button to return to the **AR100 Main Menu page (Figure 9-1)**.

   If any tests failed, note (for instance, by printing out the Test Results page) and follow the description and instructions given to correct them. See also "*Connection test fails*" on page 10-13. Click **Main Menu** to return to the **AR100 Main Menu page (Figure 9-1)**.

Upgrade router software

You can automatically download and install the latest release of the router software from the Allied Telesyn web site. When you use this utility, the router finds out which are the latest versions of the software files available from ATI web site, and compares them with the versions of the files that the router is currently running. Your web page will tell you whether there is a later version of the software available, or whether you are already running the latest version. If there is a later version, you can choose to download the new release. The router automatically downloads and installs the necessary software files.

Once the new software is installed, the router automatically restarts so that the router starts running the new software. The configuration you have previously set up for the router is stored in a script that will automatically be read and applied by the updated software.

1. Click on the **Upgrade Router Software** button in the **AR100 Main Menu page (Figure 9-1)**. The **Upgrade Software page (Figure 9-4)** opens.

Figure 9-4: Upgrade Software page

Upgrade Software - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Upgrade Software
Version 1.9.1 Serial No.6834870
The AR100 series router is able to automatically upgrade the software it is running. It will check the AR100 support site to see if there is new software available. If there is new software, you can then choose whether or not to upgrade the current software. If you choose to upgrade the software the router will automatically retrieve the necessary files and install them.
CHECK VERSION
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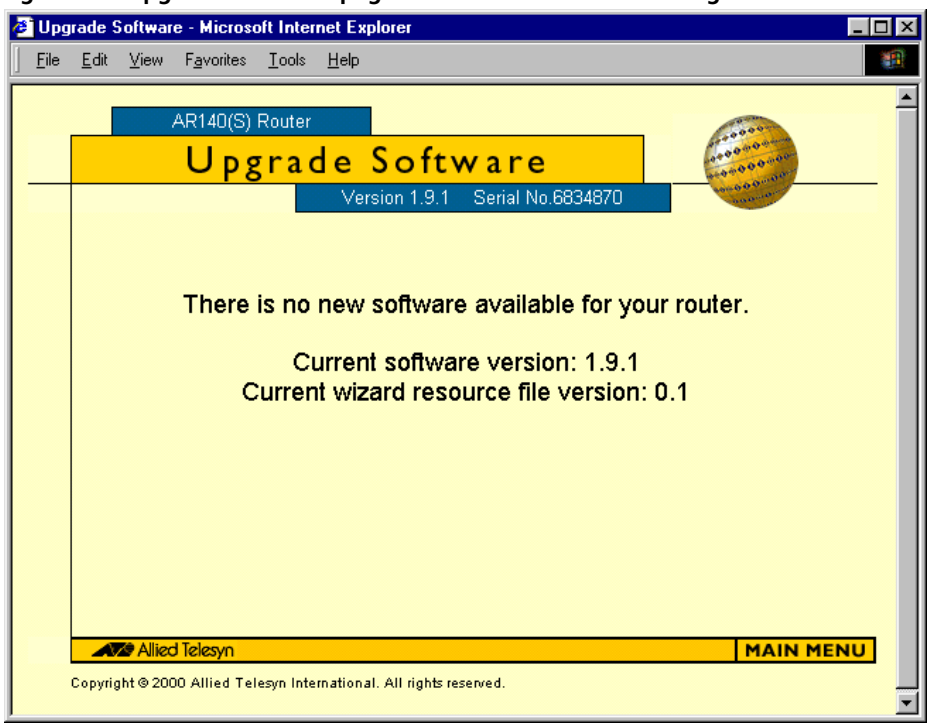
2. Click **Check Version**. The router will check the ATI site and compare the version of the software currently running on your router with the latest version available.

The next page tells you whether you are already running the latest software, or whether there are new versions of the software release or the resource file used to display the Configuration and Management Wizards.

Figure 9-5: Upgrade Software page when latest version running


Upgrade Software - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Upgrade Software
Version 1.9.1 Serial No.6834870
There is no new software available for your router.
Current software version: 1.9.1
Current wizard resource file version: 0.1
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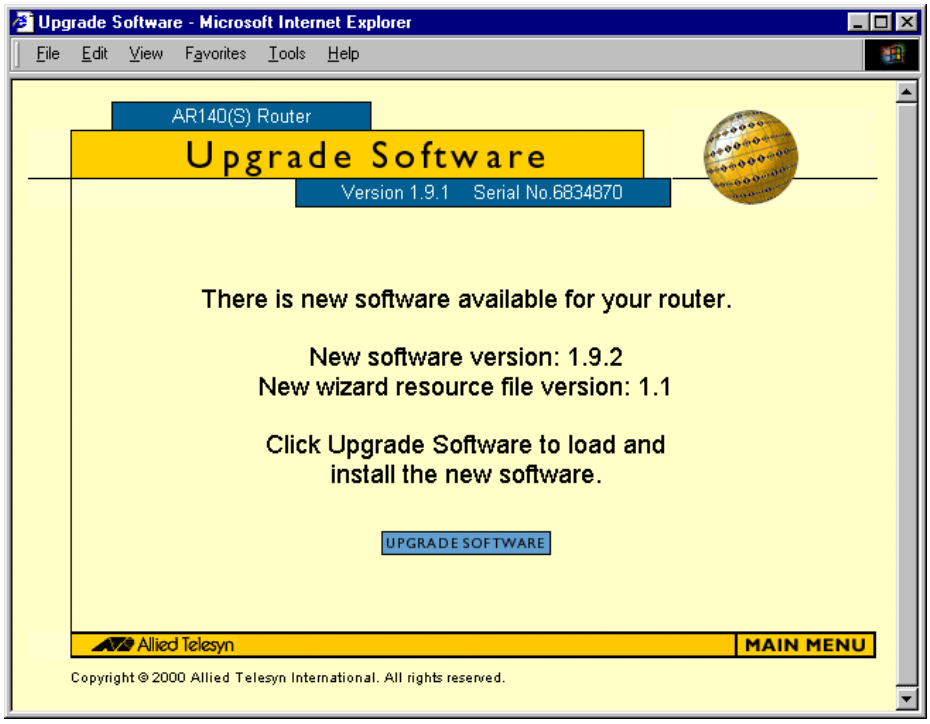
3. If you are already running the latest version of the software, click **Main Menu** to return to the **AR100 Main Menu page (Figure 9-1)**.

Figure 9-6: Upgrade Software page when new version available.


Upgrade Software - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Upgrade Software
Version 1.9.1 Serial No.6834870
There is new software available for your router.
New software version: 1.9.2
New wizard resource file version: 1.1
Click Upgrade Software to load and
install the new software.
UPGRADE SOFTWARE
Allied Telesyn
MAIN MENU
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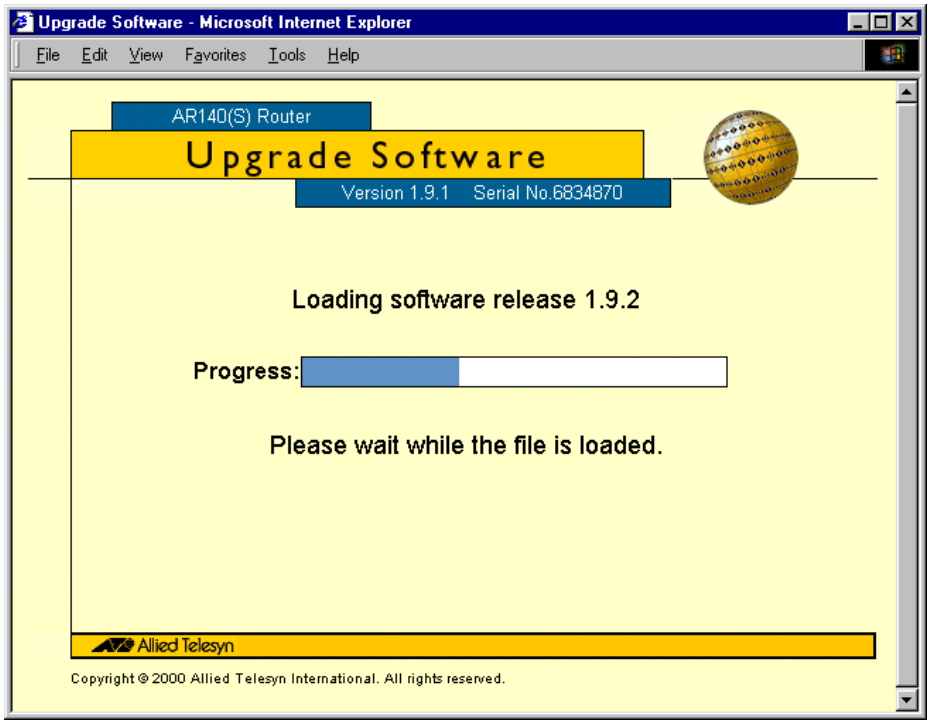
   If there are upgrades available for the Software Release or the Configuration and Management Wizard, click **Upgrade Software**.

The router loads the new files, showing its progress as it goes. This may take several minutes.

Figure 9-7: Upgrade Software page while new software is loading


Upgrade Software - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Upgrade Software
Version 1.9.1 Serial No.6834870
Loading software release 1.9.2
Progress:
Please wait while the file is loaded.
Allied Telesyn
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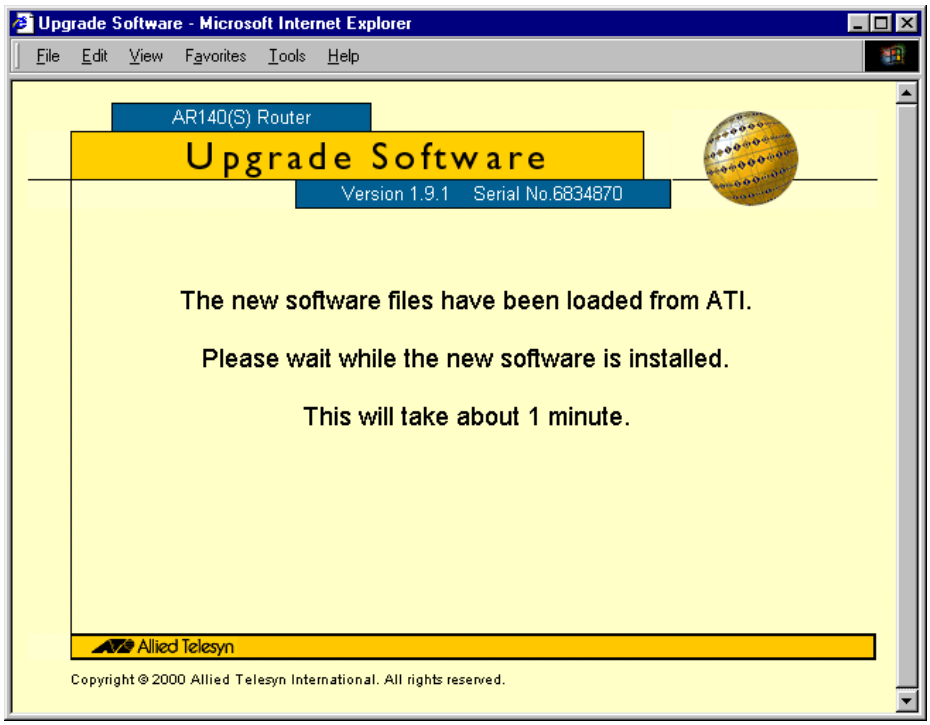
Once the new files are loaded the router installs them and restarts the router.

Figure 9-8: Upgrade Software page while new software is installed


Upgrade Software - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Upgrade Software
Version 1.9.1 Serial No.6834870
The new software files have been loaded from ATI.
Please wait while the new software is installed.
This will take about 1 minute.
Allied Telesyn
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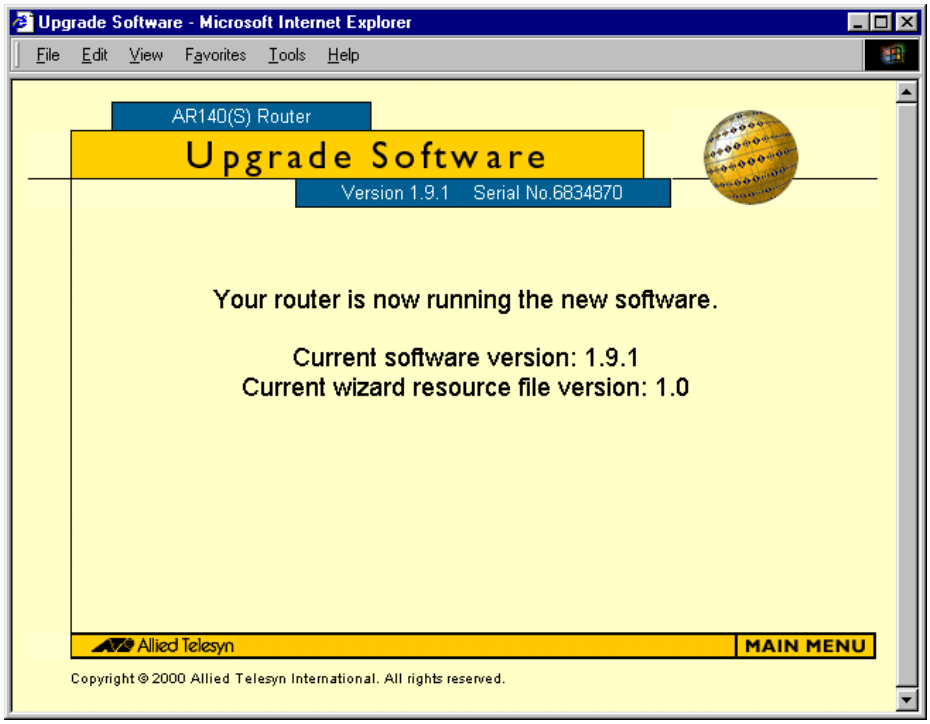
Once the new files are installed the router restarts and the following page shows that the router is now running the latest version of the software.

Figure 9-9: Upgrade Software page when upgrade completed


Upgrade Software - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Upgrade Software
Version 1.9.1 Serial No.6834870
Your router is now running the new software.
Current software version: 1.9.1
Current wizard resource file version: 1.0
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4. Click **Main Menu** to return to the **AR100 Main Menu page (Figure 9-1)**.

If the resource file for the Configuration and Management Wizards is upgraded, you may see minor changes in the appearance of the router's web pages.

Chapter 10

Troubleshooting

Refer to this chapter for problem solving help.

Front panel LEDs

The LEDs on the front panel of the router show information about its state.

Table 10-1: Front panel LEDs

LED	Meaning when lit
Power	Lit when the router is on.
System	Lit for a short time while the router performs its start-up sequence and self tests. Off during normal operation.
LAN Link 1-4	Lit when the corresponding LAN port has an Ethernet connection to a PC or hub.
LAN Activity 1-4	Lit when data is being sent or received over the corresponding LAN (Ethernet) connection.
LAN Collision	Lit when there is a collision on the Ethernet connection.
ISDN Active	Lit when the ISDN U or S/T port on the router is connected to an ISDN service, and is available for phone or data calls.
ISDN Data 1	Lit when data is sent or received over the ISDN B1 channel.
ISDN Data 2	Lit when data is sent or received over the ISDN B2 channel.
Call Alert	Flashes when configured limits on the Internet connection are exceeded.
Voice 1 (AR140 only)	Lit when the telephone connected to the Phone 1 port is off the hook.
Voice 2 (AR140 only)	Lit when the telephone connected to the Phone 2 port is off the hook.

Troubleshooting installation

If you are having problems installing the router, try one or more of the following:

No LEDs light

If none of the LEDs on the front panel of the router light up the most likely reason is that the router is not receiving mains power. Check the following:

- The power switch on the mains supply outlet is not switched on. Check that the switch is in the ON position.
- The mains power outlet is not functioning. Test the mains power outlet with some other equipment you know works.
- If the problem persists, please contact your authorised Allied Telesyn distributor or reseller immediately.

System LED stays on

If the System LED stays on contact your authorised Allied Telesyn distributor or reseller immediately.

LAN Link LED does not light

If the LAN Link LED corresponding to the port to which your PC is connected does not light, there is be no Ethernet communication between them. Your PC should be connected to one of the four LAN ports with an Ethernet UTP direct cable.

- Make sure the Ethernet card on your PC is connected to one of the four LAN ports on the back of the router.
- If your PC is connected to LAN port 4 with an Ethernet UTP direct cable, make sure the PC/Hub switch is in the PC position (out). (If this connection is made with an Ethernet crossover cable instead of a direct cable, put this switch in the reverse Hub position.) You can reverse this switch by pressing with a narrow implement.
- Check that you have the correct Ethernet UTP cable.
- If the problem persists, contact your authorised Allied Telesyn distributor or reseller.

If the router is connected to a hub to extend the LAN, LAN port 4 should be connected to the hub with a UTP direct cable.

- Make sure the hub is connected to LAN port 4 with a UTP direct cable.
- Check that the PC/Hub switch is in the Hub position (in). (If this connection is made with a crossover cable instead of a direct cable, put this switch in the reverse PC position.)
- Check that you have the correct Ethernet UTP cable, and that it is functioning. Try with another cable if you have one.
- If the problem persists, contact your authorised Allied Telesyn distributor or reseller.

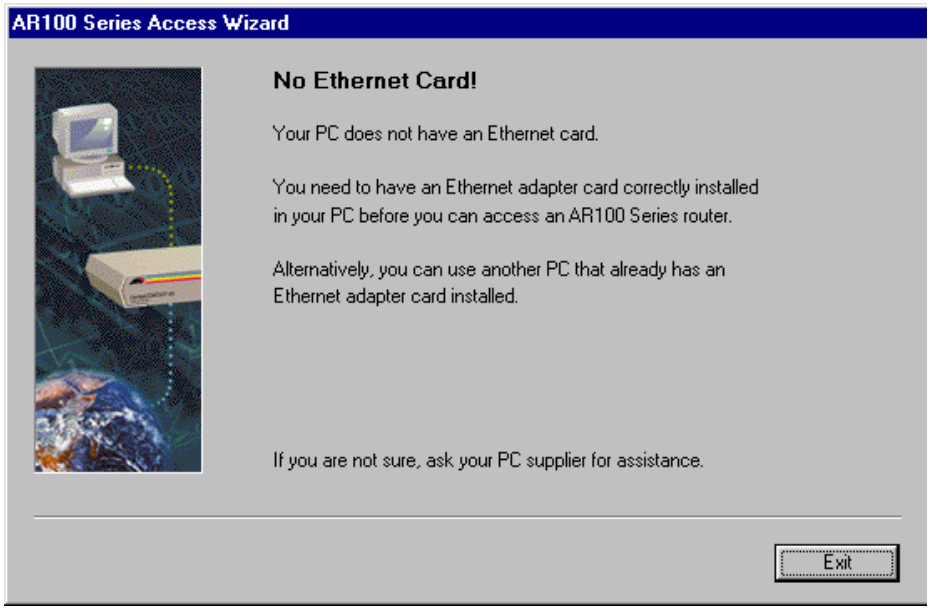
Communication problems between PC and router

If the AR100 Access Wizard on the PC cannot establish communication with the router, then it will show one or more of the following dialog boxes. Exit the AR100 Access Wizard, follow the instructions to resolve the problem, and run the AR100 Access Wizard again by re-inserting the CD in the CD-ROM drive and clicking on **Configure Router**.

No Ethernet card

The PC you use to configure the router uses an Ethernet adapter card to communicate over the Ethernet. If this dialog appears, your PC does not have an Ethernet card correctly installed.

Figure 10-1: No Ethernet Card dialog box


AR100 Series Access Wizard
No Ethernet Card!
Your PC does not have an Ethernet card.
You need to have an Ethernet adapter card correctly installed in your PC before you can access an AR100 Series router.
Alternatively, you can use another PC that already has an Ethernet adapter card installed.
If you are not sure, ask your PC supplier for assistance.
Exit

- If your PC does not have an Ethernet card, contact your PC supplier or use another PC that has an Ethernet card.
- To make sure the Ethernet adapter on your PC is correctly installed, follow the steps below. You will need the name and manufacturer of your Ethernet card, and if you have the installation disk for your Ethernet card, you may need this too.

Follow these steps.

1. In the Windows **Start** menu, point to **Settings** and click the **Control Panel**.
2. In the Control Panel, double click the **Network** icon to display the Network dialog box.
3. If your Ethernet adapter card appears in the configuration list then it is installed, and you can close these dialogs.

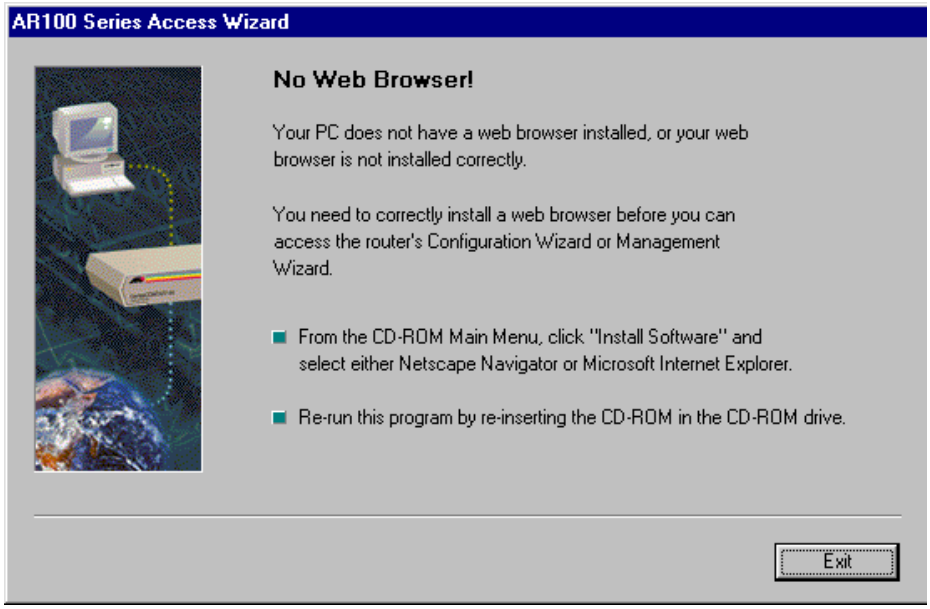
   If your Ethernet adapter card does not appear in the list of network components, click **Add** to display the **Select Network Component Type** dialog box.
4. Select **Adapter** and click **Add** to display the **Select Network Adapters** dialog box.

5. Select your Ethernet adapter card's manufacturer in the **Manufacturers** field and your Ethernet adapter card in the **Network Adapters** field. If you have the installation disk, click **Have Disk** and follow the instructions given. Otherwise click **OK** to save your changes. The Ethernet adapter card appears in the **Network** dialog Configuration list.
6. Click **OK** to close the **Network** dialog. Click the **Close** button in the Control Panel title bar to close the **Control Panel**.
7. Restart your PC.

No web browser

You need a web browser to access and configure the router. If this dialog box appears, you will need to install a web browser on your PC.

Figure 10-2: No Web Browser dialog

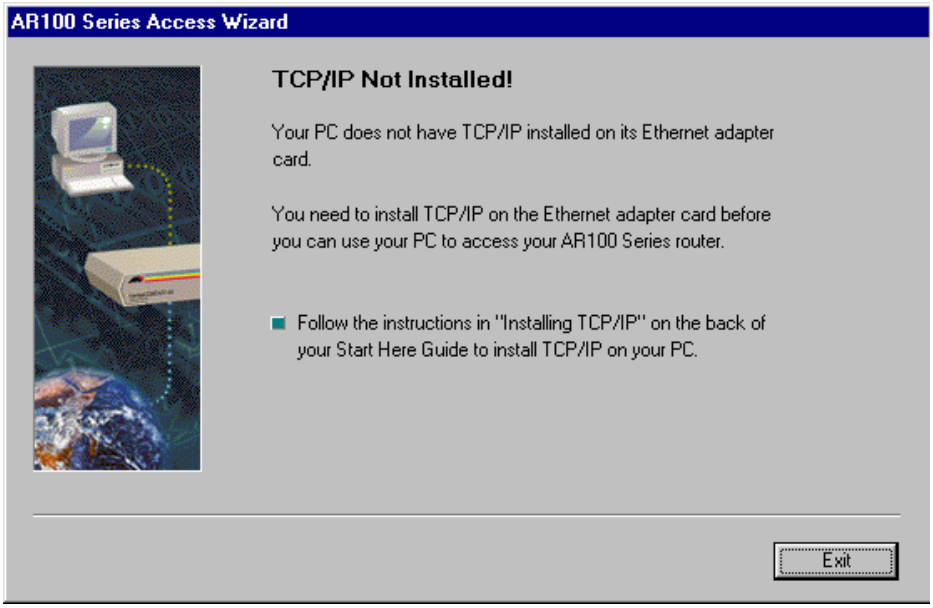

AR100 Series Access Wizard
No Web Browser!
Your PC does not have a web browser installed, or your web browser is not installed correctly.
You need to correctly install a web browser before you can access the router's Configuration Wizard or Management Wizard.
From the CD-ROM Main Menu, click "Install Software" and select either Netscape Navigator or Microsoft Internet Explorer.
Re-run this program by re-inserting the CD-ROM in the CD-ROM drive.
Exit

- Insert the AR100 CD into the PC's CD-ROM drive, and **Install Software** to install Netscape Navigator or Microsoft Internet Explorer.

TCP/IP not installed

TCP/IP is the protocol that the PC uses to communicate with the router. If this dialog appears, you will need to install and configure TCP/IP on your PC.

Figure 10-3: TCP/IP Not Installed dialog

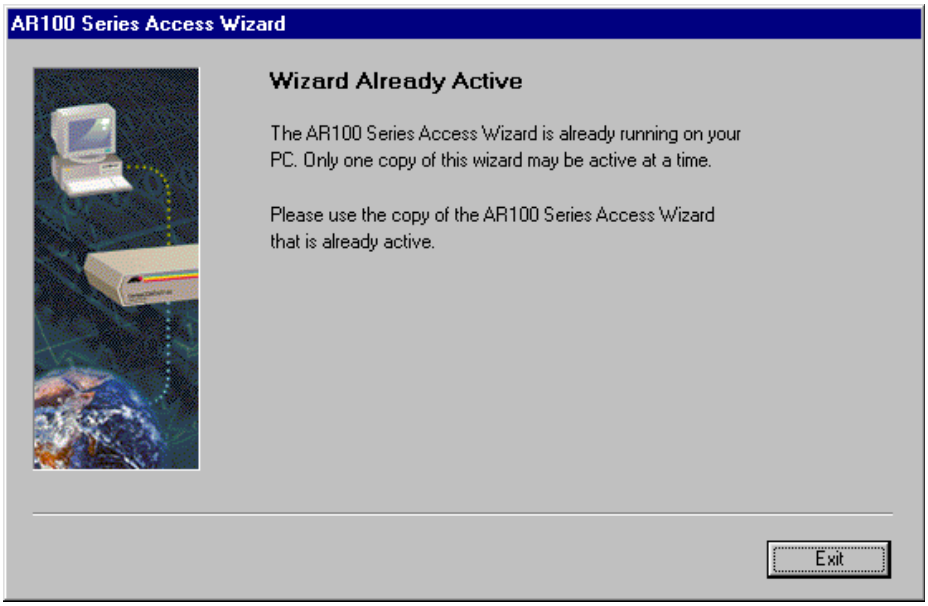

AR100 Series Access Wizard
TCP/IP Not Installed!
Your PC does not have TCP/IP installed on its Ethernet adapter card.
You need to install TCP/IP on the Ethernet adapter card before you can use your PC to access your AR100 Series router.
Follow the instructions in "Installing TCP/IP" on the back of your Start Here Guide to install TCP/IP on your PC.
Exit

Follow the instructions in "*Installing TCP/IP on your PC*" on page 3-1, or in the *Start Here Guide*.

Wizard already active

If you already have the AR100 Access Wizard running on your PC and try to start another one, this dialog appears.

Figure 10-4: Wizard Already Active dialog

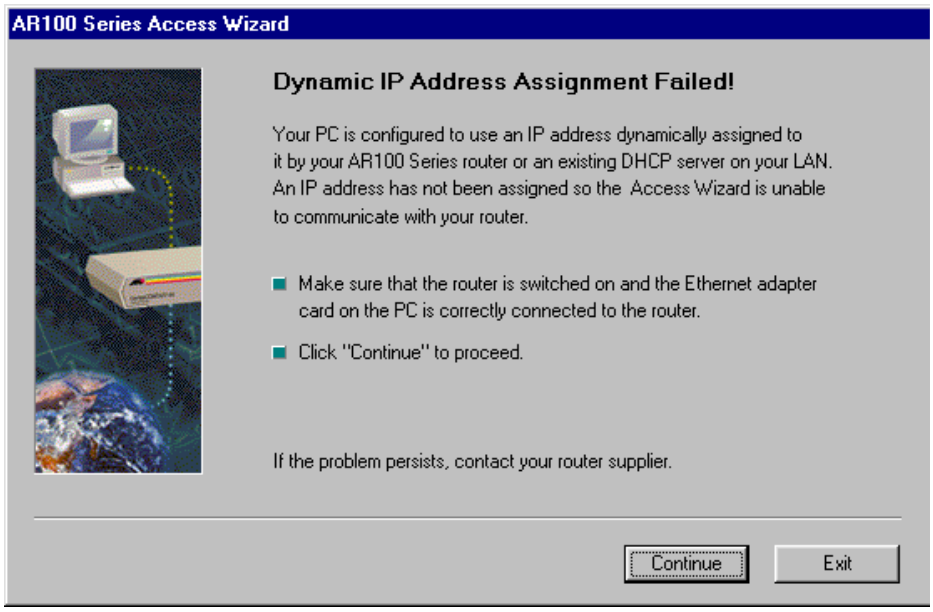

AR100 Series Access Wizard
Wizard Already Active
The AR100 Series Access Wizard is already running on your PC. Only one copy of this wizard may be active at a time.
Please use the copy of the AR100 Series Access Wizard that is already active.
Exit

- Exit this AR100 Access Wizard, and use the one that was already running.

Dynamic IP address assignment failed

Your PC needs to have an IP address assigned to it so that it can communicate with the router. This can either be an IP address dynamically assigned to your PC by a DHCP server, or it can be a fixed IP address. The AR100 has a DHCP server that can be used to assign IP addresses to your PC. If this dialog appears, your PC expects the AR100 to assign it an IP address, but it hasn't received one.

Figure 10-5: Dynamic IP Address Assignment Failed dialog

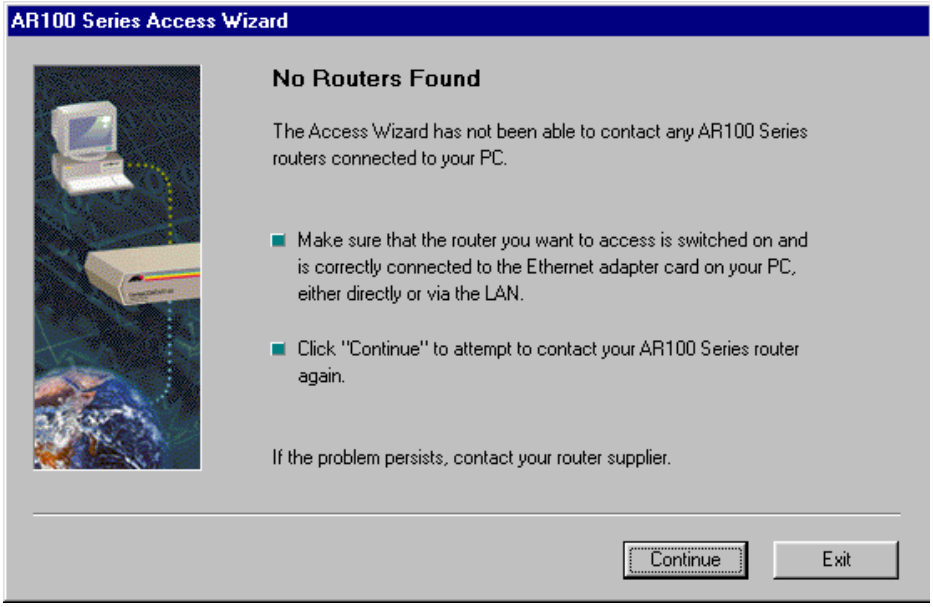

AR100 Series Access Wizard
Dynamic IP Address Assignment Failed!
Your PC is configured to use an IP address dynamically assigned to it by your AR100 Series router or an existing DHCP server on your LAN. An IP address has not been assigned so the Access Wizard is unable to communicate with your router.
Make sure that the router is switched on and the Ethernet adapter card on the PC is correctly connected to the router.
Click "Continue" to proceed.
If the problem persists, contact your router supplier.
Continue
Exit

- Make sure that the router is connected to the power supply and that the mains power supply is switched on.
- Make sure the Ethernet port on the PC is connected to one of the LAN ports on the router by an Ethernet direct cable. If connected to LAN port 4, make sure that the PC/Hub switch is in the PC position. Check that the Link LED is on. Click **Continue**.
- Restart the PC to force it to request dynamic IP address again.
- If the problem persists, contact your authorised Allied Telesyn distributor or reseller.

No routers found

When the AR100 Access Wizard is started it searches for any AR100s connected to the PC either directly or via the LAN. If it does not find any, this dialog appears.

Figure 10-6: No Routers Found dialog

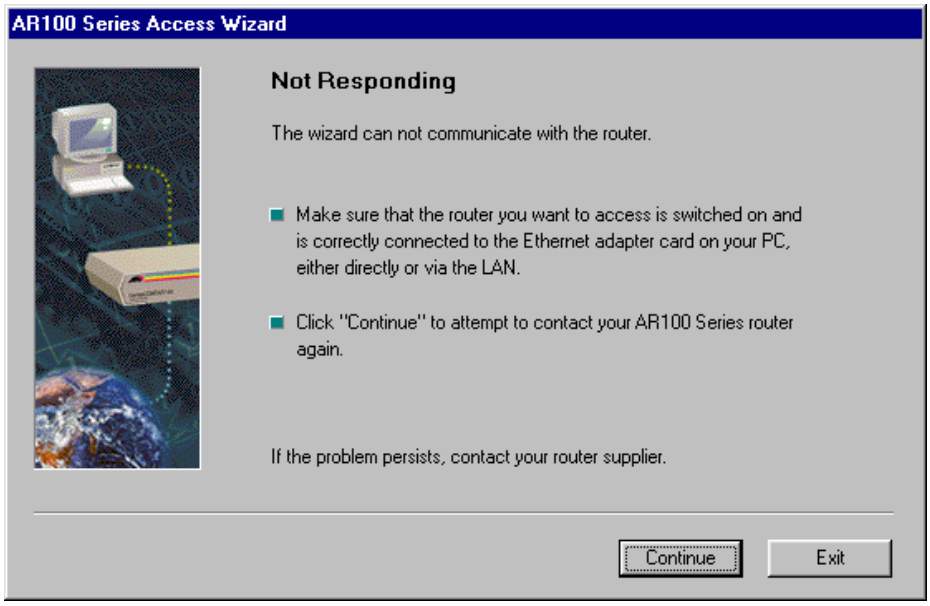

AR100 Series Access Wizard
No Routers Found
The Access Wizard has not been able to contact any AR100 Series routers connected to your PC.
Make sure that the router you want to access is switched on and is correctly connected to the Ethernet adapter card on your PC, either directly or via the LAN.
Click "Continue" to attempt to contact your AR100 Series router again.
If the problem persists, contact your router supplier.
Continue
Exit

- Make sure that the router is connected to the power supply and that the mains power supply is switched on.
- Make sure the Ethernet port on the PC is connected to one of the LAN ports on the router by an Ethernet direct cable. If connected to LAN port 4, make sure that the PC/Hub switch is in the PC position. Check that the Link LED is on. Click **Continue**.
- If the problem persists, contact your authorised Allied Telesyn distributor or reseller.

Not responding

If this dialog appears, the uninitialised router is not responding as expected to the AR100 Access Wizard.

Figure 10-7: Not Responding dialog


AR100 Series Access Wizard
Not Responding
The wizard can not communicate with the router.
Make sure that the router you want to access is switched on and is correctly connected to the Ethernet adapter card on your PC, either directly or via the LAN.
Click "Continue" to attempt to contact your AR100 Series router again.
If the problem persists, contact your router supplier.
Continue
Exit

- Make sure that the router is connected to the power supply.
- Make sure the Ethernet port on the PC is connected to one of the LAN ports on the router by an Ethernet direct cable. If connected to LAN port 4, make sure that the PC/Hub switch is in the PC position. Click **Continue**.
- If the problem persists, contact your authorised Allied Telesyn distributor or reseller.

No free IP address

Your router needs an IP address. This dialog appears if there are no IP addresses available.

Figure 10-8: No Free IP Address dialog

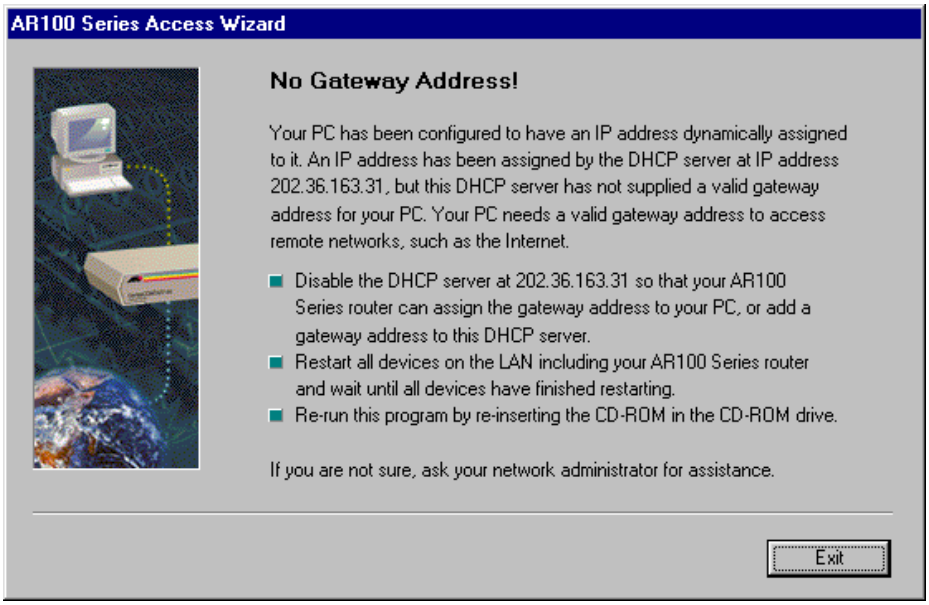
AR100 Series Access Wizard
No Free IP Address!
No IP address is available to be allocated to your router because all valid IP addresses on the LAN are in use by other devices.
Remove a device from the LAN by switching it off or disconnecting it from the LAN, then click "Continue".
Continue
Exit

- Remove another device from your LAN by switching it off or disconnecting it. Click **Continue** to try again.

No gateway address

Your PC needs the IP address of a valid gateway to access remote networks like the Internet or your remote office. It is configured to get IP addresses dynamically assigned to it by a DHCP server. The AR100 may be running as a DHCP server. If this dialog appears, then your PC has been assigned its own IP address, but has not been given a valid gateway address. This mean that there is another DHCP server on your LAN in addition to the router you are configuring, and that it does not supply a valid gateway address.

Figure 10-9: No Gateway Address dialog


AR100 Series Access Wizard
No Gateway Address!
Your PC has been configured to have an IP address dynamically assigned to it. An IP address has been assigned by the DHCP server at IP address 202.36.163.31, but this DHCP server has not supplied a valid gateway address for your PC. Your PC needs a valid gateway address to access remote networks, such as the Internet.
Disable the DHCP server at 202.36.163.31 so that your AR100 Series router can assign the gateway address to your PC, or add a gateway address to this DHCP server.
Restart all devices on the LAN including your AR100 Series router and wait until all devices have finished restarting.
Re-run this program by re-inserting the CD-ROM in the CD-ROM drive.
If you are not sure, ask your network administrator for assistance.
Exit

1. Either
   - Disable the DHCP server at the IP address shown so that the AR100 router can assign the gateway address to your PC, *or*
   - Add a gateway address to the DHCP server at the IP address shown.

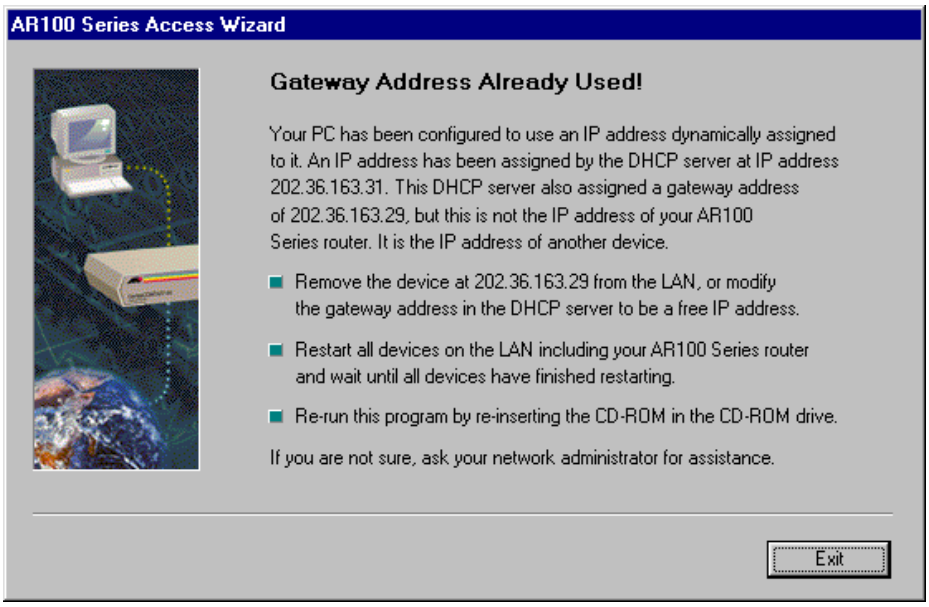
   If you are unsure, contact your network administrator.
2. Restart all the devices on your LAN (connected to the PC or the router), and wait till they have all finished restarting.
3. Exit and rerun the AR100 Access Wizard.

Gateway address already used

Your PC needs the IP address of a valid gateway to access remote networks like the Internet or your remote office. This PC uses the router as its gateway. The PC is configured to get its own IP address and the gateway IP address dynamically assigned by a DHCP server. The AR100 series router may be running as a DHCP server. When the PC gets a gateway address from the DHCP server, it assigns it to the AR100.

If the **Gateway Address Already Used dialog (Figure 10-10)** appears, the DHCP server has allocated a gateway IP address to the PC that is already being used by another device, so that it cannot be used for the AR100.

Figure 10-10: Gateway Address Already Used dialog


AR100 Series Access Wizard
Gateway Address Already Used!
Your PC has been configured to use an IP address dynamically assigned to it. An IP address has been assigned by the DHCP server at IP address 202.36.163.31. This DHCP server also assigned a gateway address of 202.36.163.29, but this is not the IP address of your AR100 Series router. It is the IP address of another device.
Remove the device at 202.36.163.29 from the LAN, or modify the gateway address in the DHCP server to be a free IP address.
Restart all devices on the LAN including your AR100 Series router and wait until all devices have finished restarting.
Re-run this program by re-inserting the CD-ROM in the CD-ROM drive.
If you are not sure, ask your network administrator for assistance.
Exit

1. Either
   - Remove the other device at the IP address shown by switching it off or disconnecting it from the LAN, or
   - Modify the gateway address in the DHCP server to be a free IP address.

   If you are unsure, contact your network administrator.
2. Restart all the devices on your LAN, including the DHCP server, the AR100, and the PC. Wait till they have all finished restarting.
3. Exit and rerun the AR100 Access Wizard.

No Internet access

If you cannot log in to your ISP, the cause may be one of the following.

- The ISDN number, username or password for connecting to your ISP are wrong. Check the ISDN number, and the username and password on the **Internet Connection page (Figure 7-5)**. Check spelling, and the use of upper and lower case letters.
- The ISP is busy. Try again later.

If your ISP username and password are accepted, but you are unable to access the Internet, the problem could be with either your router configuration or your ISP.

- Check the configuration of your Internet connection. If you are in North America, make sure the router is configured with the correct channel speed (56K or 64K) for your Internet connection. See "*Adding or changing an Internet connection*" on page 7-6.
- Contact your ISP for assistance.

No access to remote office

If you cannot log in to your remote office, the cause may be one of the following.

- The ISDN number, username or password for logging in to your remote office are wrong. Check the ISDN number, username and password on the **Inter-Office Connection page (Figure 7-6)**. Check spelling, and the use of upper and lower case letters.

If your ISP username and password are accepted, but you are unable to access the remote office network, the problem could be with either your router configuration or the configuration at the remote office.

- Check the configuration of your Inter-Office connection.

  If you are in North America, make sure the router is configured with the correct channel speed (56K or 64K) for your Internet connection.

  If you have both Internet and an inter-office connections, make sure that you have the correct IP address ranges and masks for access to the IP networks at the remote office.

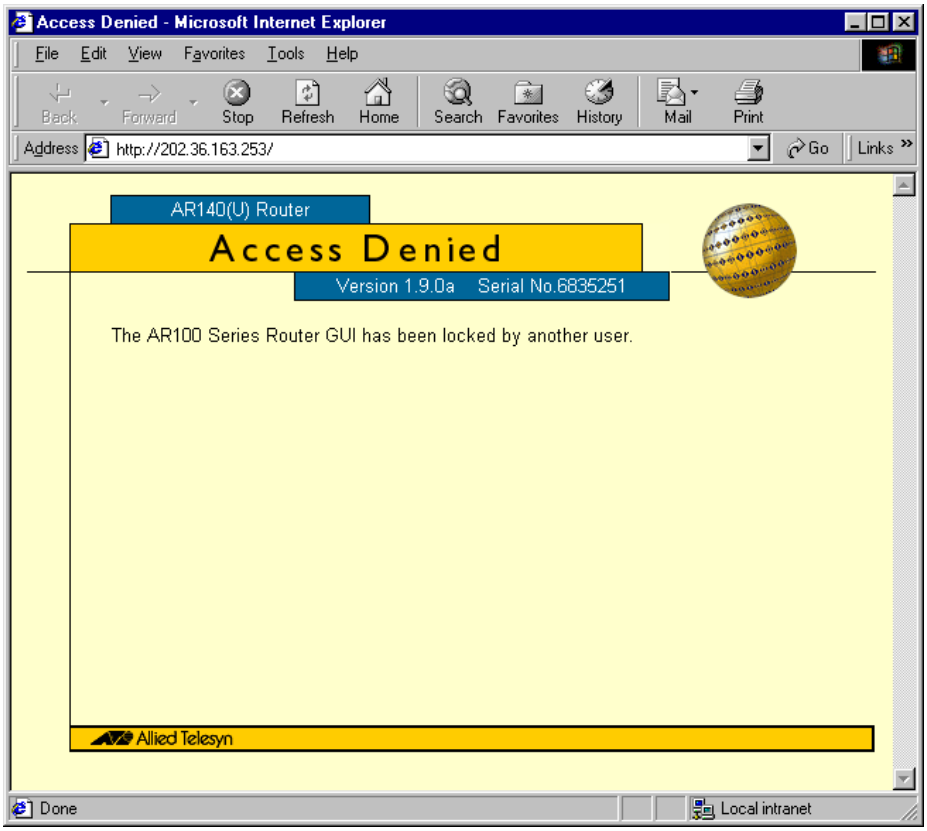
  See "*Changing an inter-office connection*" on page 7-10.

- Contact the network administrator at the remote office.

Access to router denied

This page appears if you are locked out of the router because someone else is using the Configuration and Management Wizard pages. The same page will also tell you if you are locked out because someone else is logged into the router and using the Configuration and Management Wizard after you left it unused for more than 30 minutes.

Figure 10-11: Access Denied page


Access Denied - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Forward Stop Refresh Home Search Favorites History Mail Print
Address http://202.36.163.253/
Go Links
AR140(U) Router
Access Denied
Version 1.9.0a Serial No.6835251
The AR100 Series Router GUI has been locked by another user.
Allied Telesyn
Done
Local intranet

- Wait until the other user has finished using the pages or left the router unused for more than thirty minutes. Try again. See "*Web pages and your browser*" on page 4-1.

Connection test fails

This section describes the most likely causes of any test connection failures that may arise when you click **Test Connections** in the Configuration Wizard or in the **AR100 Main Menu page (Figure 9-1)**. For more detailed explanations and troubleshooting tests see "*Advanced ISDN troubleshooting*" on page 10-18.

ISDN Status

The ISDN status tests check that there is a connection to the ISDN network.

ISDN port check: Not Active

The ISDN port is not active. There is no signalling level connection to the ISDN network. This may have be due to:

- A failure in the physical connection between the router and the ISDN network. Make sure the ISDN port on the router is connected to the ISDN service as shown in the *Start Here Guide*. Check the ISDN cable. Try another cable if you have one.
- A failure in the ISDN network. Contact your ISDN service provider.
- A failure in the router. Contact your authorised Allied Telesyn distributor or reseller.

The ISDN Active LED on the front of the router lights when there is a connection to the ISDN service.

ISDN link check: Not Active

The ISDN link is not active for making calls. The router has failed to establish a logical connection to the ISDN switch using LAPD. Contact your ISDN service provider.

Internet Connection

The Internet connection tests check that your router can connect to your ISP.

Test ISDN call setup by making an ISDN call to ISP: Failed

The router failed to make an ISDN call to the ISP. This may be due to:

- The router is configured with the wrong ISDN directory number for the ISP. Make sure that the correct ISDN number for your ISP is entered in the **Internet Connection** page.
- The ISP is busy or unavailable. Try again later, and if the problem persists, contact your ISP.
- There is congestion or a fault in the ISDN network. Try again later, and if the problem persists, contact your ISDN service provider.

Test PPP connection to ISP: Failed

The router failed to make a PPP connection to the ISP. This may be due to:

- There is an error in the configuration of either your router or the ISP's router. Contact your ISP.

- The router is configured with a valid ISDN number, but it is not the ISP's directory number. Make sure that the correct ISDN number for your ISP is entered in the **Internet Connection** page.

Test username and password by logging into ISP: Failed

Your router failed to log into the ISP.

- Make sure the correct username and password are entered in the **Internet Connection** page. Try again.
- If the problem persists, contact your ISP.

Test IP connection to ISP: Failed

Your router failed to make an IP connection to the ISP.

- There is an error in the configuration of either your router or the ISP's router. Contact your ISP.

Inter-Office Connection

The Inter-Office connection tests check that your router can connect to your remote office.

Test ISDN call setup by making an ISDN call to office: Failed

The router failed to make an ISDN call to the remote office. This may have one of the following causes.

- The router is configured with the wrong ISDN directory number for the remote office. Make sure that the correct ISDN number for your ISP is entered in the **Inter-Office Connection** page.
- The remote office is busy or unavailable. Try again later, and if the problem persists, contact your network administrator at the remote office.
- There is congestion or a fault in the ISDN network. Try again later, and if the problem persists, contact your ISDN service provider.

Test PPP connection to your office: Failed

The router failed to make a PPP connection to the remote office. This may have one of the following causes:

- There is an error in the configuration of either your router or the remote office router. Contact your network administrator at the remote office.
- The router is configured with a valid ISDN number, but it is not the remote office directory number. Make sure that the correct ISDN number for your remote office is entered in the **Inter-Office Connection** page.

Test username and password by logging into office: Failed

Your router failed to log into the remote office.

- Make sure the correct username and password are entered in the **Inter-Office Connection** page. Try again.
- If the problem persists, contact your network administrator at the remote office.

Test IP connection to your office: Failed

Your router failed to make an IP connection to the remote router.

- Contact your the network administrator for the remote office.

Software upgrade problems

A failed attempt to upgrade to the latest version of the router software could have one of the following causes.

- The ATI web site is temporarily unavailable. Try again later.
- There is an error in the configuration of your Internet connection. Check the ISDN number, username and password on the **Inter-Office Connection page (Figure 7-6)**. If unsure, contact your ISP.
- Your ISP is busy. Try again later.
- If the problem persists, contact your authorised Allied Telesyn distributor or reseller.

If a new software release file is successfully loaded and installed, but the Configuration and Management Wizard resource file fails to load or install successfully, the router will still run correctly, but the appearance of the Wizard pages may be affected.

- Run the software. Try again later to download the new Configuration and Management Wizard resource file.
- If the problem persists, contact your authorised Allied Telesyn distributor or reseller.

If a new software release file fails to load or install correctly the router software still needs to be upgraded.

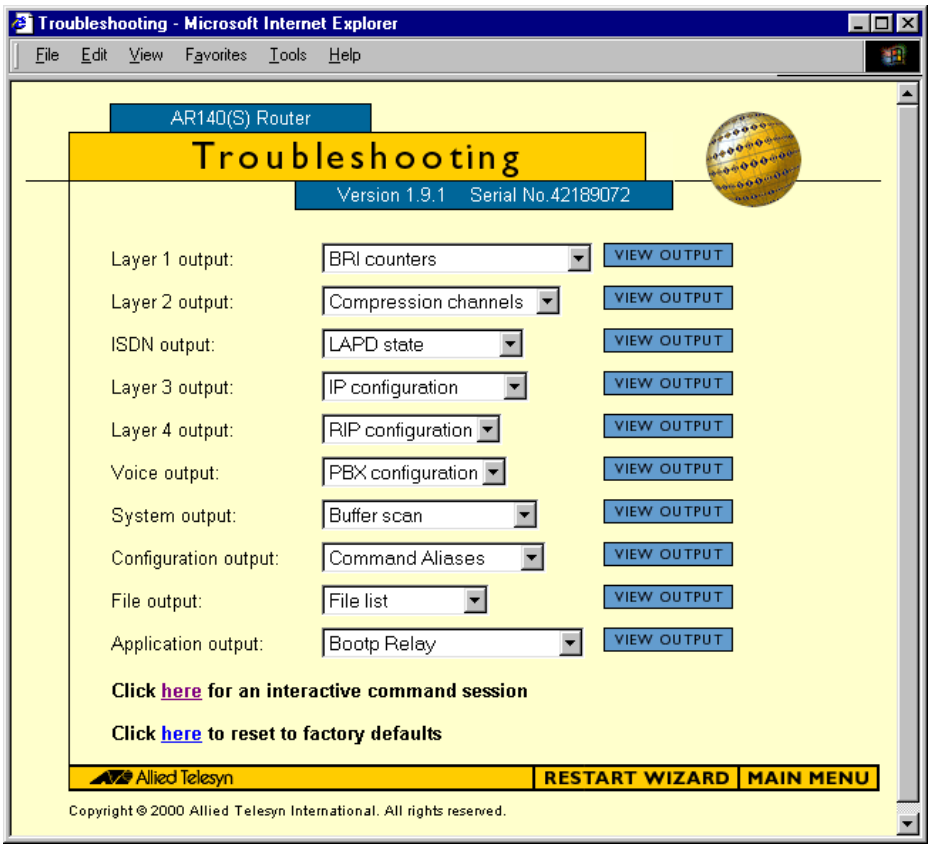
- Try again later.
- If the problem persists, contact your authorised Allied Telesyn distributor or reseller.

Advanced troubleshooting utility

You can get more detail about the router's operation using the Troubleshooting utility. If you use this page, you can refer to the Reference Manual, also on the AR100 CD, for explanations of the data reported.

1. Click on the **Troubleshoot** button in the **AR100 Main Menu page (Figure 9-1)**. The **Troubleshooting page (Figure 10-12)** opens.

Figure 10-12: Troubleshooting page


Troubleshooting - Microsoft Internet Explorer
File Edit View Favorites Tools Help
AR140(S) Router
Troubleshooting
Version 1.9.1 Serial No.42189072
Layer 1 output: BRI counters VIEW OUTPUT
Layer 2 output: Compression channels VIEW OUTPUT
ISDN output: LAPD state VIEW OUTPUT
Layer 3 output: IP configuration VIEW OUTPUT
Layer 4 output: RIP configuration VIEW OUTPUT
Voice output: PBX configuration VIEW OUTPUT
System output: Buffer scan VIEW OUTPUT
Configuration output: Command Aliases VIEW OUTPUT
File output: File list VIEW OUTPUT
Application output: Bootp Relay VIEW OUTPUT
Click here for an interactive command session
Click here to reset to factory defaults
Allied Telesyn
RESTART WIZARD
MAIN MENU
Copyright © 2000 Allied Telesyn International. All rights reserved.

2. Select the kind of data you want a report of in the pick lists. Click the **View Output** button to see a report.
3. To return to the **Troubleshooting page (Figure 10-12)**, click the OK button on the report page.

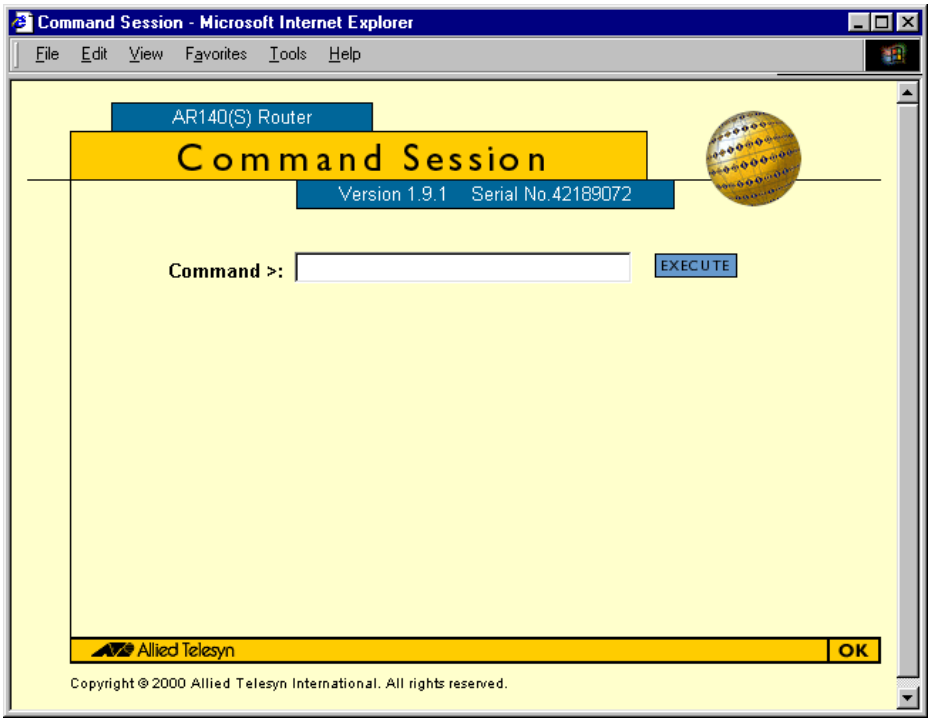
- If you want to restart the AR100 Configuration Wizard, click **Restart Wizard**. This will remove an existing configuration. A warning dialog asks you to confirm that you want to remove the existing configuration.
- If you reset factory defaults, you will need to use the AR100 Access Wizard to initialise the router again. A warning dialog asks you to confirm that you want to remove the existing configuration.

Using interactive commands

An interactive command session allows you to send commands to the router. You can use this for advanced configuration, including configuring a firewall, and for advanced troubleshooting. Refer to the *AR100 Series Reference Manual* on the *Installer and Documentation CD-ROM* for full information about the commands available.

- To start an interactive command session click **Troubleshoot** in the AR100 **Menu** page. The **Troubleshooting page (Figure 10-12)** opens.
- Click on the interactive command session link. The **Command Session** page opens.
- Type a command into the **Command** field and click **Execute**.

Figure 10-13: Command Session page



Advanced ISDN troubleshooting

By using the Troubleshooting page you can find out more about the source of ISDN connection problems. Record the results and output from your checks and have these at hand if you need to ask for assistance from your network administrator at the remote office, your ISDN service provider or your authorised Allied Telesyn distributor or reseller.

Test your own router

Your router can perform a self test to check itself for faults, and show you the results of this self test. This will show that either:

- Your router is OK, and your ISDN connection problems are caused by a fault in the ISDN network, your router's connection to it, or configuration errors. Go to "*Show ISDN call connections*" on page 10-18.

  OR

- Your ISDN connection problems are caused by a faulty router, and you should contact your authorised Allied Telesyn distributor or reseller.

Note: The router cannot perform any of its normal operations while it is self testing.

To run a self test on the router select an interactive command session on the Management Wizard **Troubleshooting page (Figure 10-12)**.

In the Command Session page that opens enter the command:

```
ENABLE TEST INT=BRI0
```

and click **Execute**. The System LED lights. Wait for four minutes, then enter the command:

```
SHOW TEST
```

and click **Execute**. If the output shows the result for the completed BRI0 test to be "good", that is, it includes the line:

```
BRI0        complete        good
```

then the router has not detected any physical fault in the router's Basic Rate ISDN interface. If the result is not "good" there may be a fault in your router.

Show ISDN call connections

If the router has a LAPD connection to the switch (the Test Connection result shows the ISDN link to be Active), then when an outgoing call is made from the router, it sends a call setup message to the switch. If the switch believes that the message packet is valid and there are channels available in the ISDN network, it will forward it to the router at the other end of the call. The receiving router will then either accept or reject the call, depending on the contents of the packet.

If the receiving router accepts the call setup request, the ISDN call opens, and the routers will endeavour to exchange data packets. If the call does not open there is no exchange of data. To show whether calls are opening, select **ISDN Calls** in the **ISDN Output** field on the **Troubleshooting** page and click **View**

Output. The **Output** page shows data about the last few ISDN calls, successful or otherwise.

Figure 10-14: Example output on the ISDN Calls Output page

```
Call Name     Start Time              Duration  Dir    Number          Cause
-------------------------------------------------------------------------------
tdc           12-Dec-1997 11:18:51    CLEARED   OUT    035439003       U16,-
chs           12-Dec-1997 11:19:03    CLEARED   OUT    073333333       N1,-
ajpwlg        12-Dec-1997 11:19:36    0:01:01   OUT    044940190       U16,-
ajpwlg        12-Dec-1997 11:23:12    0:01:01   OUT    044940190       U16,-
abb           12-Dec-1997 11:23:33    0:00:4    OUT    093560114       U16,-
ajpwlg        12-Dec-1997 11:24:05    CLEARED   OUT    -
ajpwlg        12-Dec-1997 11:24:25    0:01:02   OUT    044940190       U16,-
ajpwlg        12-Dec-1997 11:24:27    CLEARED   OUT    044940190       N21,-
gc            12-Dec-1997 11:25:14    CLEARED   OUT    3776569         N27,-
ppta          12-Dec-1997 11:25:38    CLEARED   OUT    043842672       N17,-
to_boe        12-Dec-1997 11:26:13    CLEARED   OUT    00441256376991  N18,-
pfricc        12-Dec-1997 11:26:38    CLEARED   OUT    3432977         N17,-
-------------------------------------------------------------------------------
```

If a time value is given in the Duration column the ISDN call connected for this length of time. If the values in the Duration column are CLEARED the calls have never been connected. The cause column gives a code for the reason a call was disconnected. The descriptions following of some of the more common cause codes may help you identify where the ISDN problem is occurring.

In the cause codes the letter U (User) means that your router closed the ISDN call, while the letter N (Network) means that either the ISDN switch or the router at the other end closed the ISDN call.

The cause code number may be one of the following.

- 1 - Invalid number

  The number you are calling is not assigned to any connection. Check the number you are calling.

Note: This cause code also occurs if your router is connected to a centrex service, and you are calling a number outside of the centrex extensions, but have not preceded it with the prefix for an 'outside line'.

- 16 - Normal call clearing

  This shows that there was no problem with the ISDN call, but the call was closed for a higher layer reason. In particular, if the call duration was about 2-5 seconds, then the problem is likely to be an incorrect username or password. Check the username and password for connection to your ISP or remote office. If unsure, contact your ISP or the network administrator at your remote office.

- 17 - User busy

  This is like an engaged signal on a voice call, and does not indicate a configuration problem. Try this call again later.

- 18 - No user responding

  There seems to be a device at the far end which has a LAPD connection to the switch but it is not responding to the call setup messages. This may indicate that the device at the far end has been set up to only make outgoing

calls, or that it has a software or hardware fault that has put it in a state whereby it is capable of maintaining a LAPD connection to the switch, but can't actually responding to call setup requests.

Contact your ISP or the network administrator at your remote office, depending on where the call was made to.

- 21 - Call rejected

  This code almost always indicates a mistake in router configuration, either at your end or at the other end of the connection. This cause code occurs when the call setup packet is successfully delivered to the router at the other end of the connection, but the router refuses the call because it is not configured to accept the call. There can be are a number of configuration errors that can result in a call being refused.

  Contact your ISP or the network administrator at your the remote office, depending on where the call was made to.

  The following are some of the more common configuration errors to look out for.

  - No ISDN call definitions have yet been created on the receiving router.
  - The ISDN call definitions configured on the receiving router are set up to search for particular strings in the subaddress, CLI or user-user fields in the call setup packet, but the sending router is not putting the correct strings into the correct fields.
  - There is an ISDN call definition on the receiving router that will accept the incoming call, but there is not yet a layer 2 interface (PPP or Frame Relay) configured to use this call definition.
  - There is an ISDN call definition on the receiving router that will accept the incoming call, and there is a layer 2 interface configured over the call definition, but this particular call definition is already taken by another incoming call.

- 27 - Destination out of order

  You are calling a valid number, but the switch does not have a valid LAPD connection on the channel corresponding to the number you are calling. This may mean that the device at the other end has not be properly installed yet, or is switched off. Or it may indicate a fault in the wiring between the switch and the site where that call is terminated. Contact your ISP or the network administrator at the remote office, depending on where the call was made to.

- 34, 38, 44, 42 - ISDN network congestion or fault

  If you receive these cause codes regularly, contact your ISDN service provider.

Chapter 11

Safety and Statutory Information

Safety and statutory statements

This information must be read prior to use of this equipment, and overrides as appropriate any information in respect of connection and use of the equipment. Any enquiries regarding regulatory aspects of this equipment should be addressed to Allied Telesyn International. This product meets the requirements of EN60950 1992 including amendments 1 through 5, Austel AS3260 / TS001 and UL1950. / CSA C22.2 No 950.

1. Connection to mains voltage supply

This product is supplied with a power cord which incorporates a moulded plug and has been approved for use. It must only be used with the power cord supplied.

For continued protection against the risk of fire and shock hazard, replace fuses only with the same type and rating.

2. Earthing

The power cord supplied with this equipment must be connected to a power socket which provides a reliable protective earth connection.

3. Connection to ISDN network

This product is supplied with an approved patch cord, coloured Green, for connection to the ISDN Basic Rate Network.

Caution: To reduce risk of fire use only no.26 awg or larger telecommunications line cord if the cord supplied is not used with the apparatus.

4. Ports for the connection of other apparatus

The following interfaces normally operate at SELV (Safe Extra Low Voltage) levels:

- Asynchronous (console) ports.
- Hub ports.

Note: SELV is a voltage that does not exceed 42.4V peak a.c. or 60V d.c.

The following interfaces are Telecommunications Network Voltage (TNV1) circuits which operate normally within the limits of SELV:

- BRI ports for connection to ISDN Basic Rate telecommunications networks.

Note: A TNV1 circuit is a circuit which under normal operating conditions does not exceed the limits for SELV but on which overvoltages from TELECOMMUNICATION NETWORKS are possible.

The following interfaces are Telecommunications Network Voltage (TNV2) circuits:

- POTS ports (AR140 only).

Note: A TNV2 circuit is a circuit which under normal operating conditions may exceed SELV but on which overvoltages from TELECOMMUNICATION NETWORKS are not possible.

5. Product servicing

This product contains no user-serviceable parts. All product servicing must be carried out by qualified service personnel.

6. Lithium cell

This product includes an Integrated Circuit containing a Lithium cell. It carries a warning

Do not dispose in fire

This warning should be strictly adhered to. Replacement and disposal of this device must be carried out by qualified service personnel.

Warning: Danger of explosion if the battery is incorrectly replaced. Replace only with the same type or equivalent type recommended by the manufacturer. Dispose of used battery according to the manufacturer's instructions.

7. European EMC compliance

This product meets the requirements of the European Electromagnetic Compatibility (EMC) Directive 89/336/EEC. The product complies with the requirements of CISPR 22 (EN55022) for Emissions and EN50082-1 for Immunity for limits of radio disturbance characteristics for Information Technology Equipment (ITE).

8. US Federal Communications Commission (FCC)

This equipment complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with Part 68 of the Federal Communications Commission (FCC) rules for the United States.

A label is located on the underside of the base unit containing the FCC registration number. You must, upon request, provide the following information to your local telephone company:

Facility Interface Code 02IS5

Service Order Code 6.0Y
The AR130 and AR140 have completed the ISDN Ordering Codes Translation Review and are registered for IOC S and EZ-ISDN 1.

USOC Jack Type RJ49C

Should you experience trouble with this telephone equipment, please contact:

ALLIED TELESYN INTERNATIONAL
19800 NORTH CREEK PARKWAY #200
BOTHELL
WASHINGTON 98011
TEL: 425 487 8880
FAX: 425 489 9191

If trouble is experienced with this equipment (AR140U OR AR130U), for repair or warranty information, please contact **the above**. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

This equipment cannot be used on public coin phone service provided by the telephone company. Connection to party line service is subject to state tariffs.

Your telephone company may discontinue your service if your equipment causes harm to the telephone network. They will notify you in advance of disconnection, if possible. During notification, you will be informed of your right to file a complaint to the FCC.

Occasionally, your telephone company may make changes in its facilities, equipment, operation, or procedures that could affect the operation of your equipment. If so, you will be given advance notice of the change to give you an opportunity to maintain uninterrupted service.

For repair/warranty information. The telephone company may ask you to disconnect this equipment from the line network until the problem has been been corrected.

9. Canadian Department of Communications

NOTCE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water

pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Warning: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

This digital apparatus does not exceed the limits for radio noise emissions from digital apparatus as set out in the Radio Interface Regulations of the Canadian Department of Communications.

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

Environmental Conditions

This apparatus is designed for operation under the following environmental conditions:

Operating Temperature	-5°C to 40°C
Storage Temperature	-5°C to 70°C
Humidity	5% to 95% non condensing
Operating Atmospheric Pressure	86 kPa to 106 kPa

Sicherheitshinweise

Sie müssen diese Information lesen, bevor Sie dieses Produkt in Deutschland verwenden. Diese Information ersetzt gegebenenfalls jegliche Informationen bezüglich Anschluss und Verwendung von diesem Produkt.

1. Anschluß an das allgemeine Stromnetz

Die Geräte, die an das allgemeine Stromnetz anschlossen werden, dürfen nur mit den gelieferten Kabeln benutzt werden. Die Sicherheitssteckdose soll in der Nähe des Geräts installiert sein und muss leicht zu erreichen sein.

Das Netzkabel, das mit diesem Gerät geliefert wird, darf nur an eine Sicherheitssteckdose mit einer zuverlässigen Erdung angeschlossen werden.

Für weiterreichenden Schutz gegen Feuerrisiko und um die Möglichkeit eines elektrischen Schocks zu vermeiden, sollen Sicherungen nur durch solche desselben Typs und derselben Stärke ersetzt werden.

2. Erdung

Die Erdung soll durch die beigepackten Netzkabel erfolgen.

3. Anschluss an das ISDN Netz

Dieses Produkt wird mit einem zugelassenem RJ45 Kabel in der Farbe Grün geliefert. Dieses ist für die Verbindung zum ISDN Basic Rate Netztwerk.

Vorsicht: Um das Feuerrisiko zu reduzieren verwenden Sie nur no.26 awg oder starkeres Telekommunikationskabel falls das mitgelieferte Kabel nicht mit dem Gerät verwendet wird.

4. Sicherheit des Leitungsnetzes

Alle Anschlüsse, die im Format RJ45,15 und 37 Anschlusstypen D-sind, arbeiten normalerweise auf SELV (Sicherheits-Extra -Niederspannungs) Ebene.

5. Wartung des Geräts

Dieses Gerät enthält keine Bestandteile, die vom Benutzer selbst gewartet werden können.

Versuche von nicht qualifiziertem Personal, Zugang zum Geräteinneren zu erlangen, kompromittieren die Zulassungsbestimmungen. Im Falle eines solchen versuchten Zugangs wird keine Haftung dafür übernommen, wenn sich das Gerät als nicht mehr den Zulassungbestimmungen entsprechend erweist.

Alle Produktwartung muß von qualifiziertem Servicepersonal durchgeführt werden.

6. Lithiumzelle

Dieses Produkt enthält einen integrierten Schaltskreis, der eine Lithiumzelle enhält. Man kann diesen Bauteil durch die Teilnummer DS1286 und DS1213D identifizieren.

Warnung: Explosionsgefahr falls die Batterie inkorrekt ersetzt wird. Ersetzen Sie diese nur mit der selben oder equivalenten vom Hersteller empfohlenen Type. Entsorgen Sie leere Batterien entsprechend den Anweisungen des Herstellers.

Batterie nicht ins Feuer werfen.

Befolgen Sie diese Warnung genau. Versuchen Sie nicht, die Batterie zu öffnen. Entsorgung dieses Teiles darf ausschliesslich von qualifiziertem Servicepersonal durchgeführt werden.